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ABSTRACT

The general purpose of the conference was to provide a select group of 145 leaders in vocational and technical education with the opportunity to address the following crucial issues: (1) Who shall be served by post-high school vocational and technical education? (2) How can essential educational personnel for post-high school vocational and technical programs be developed? and (3) What are optimum organizational structures for post-secondary vocational and technical education? Two papers on each of the three topics were developed and presented to the conference by six nationally prominent authors in vocational and technical education. These papers and a synthesis of comments and recommendations offered by conference participants are included in this report. A complete listing of project staff, conference participants, discussion leaders, conference reporters, and a conference schedule are appended. (GR)

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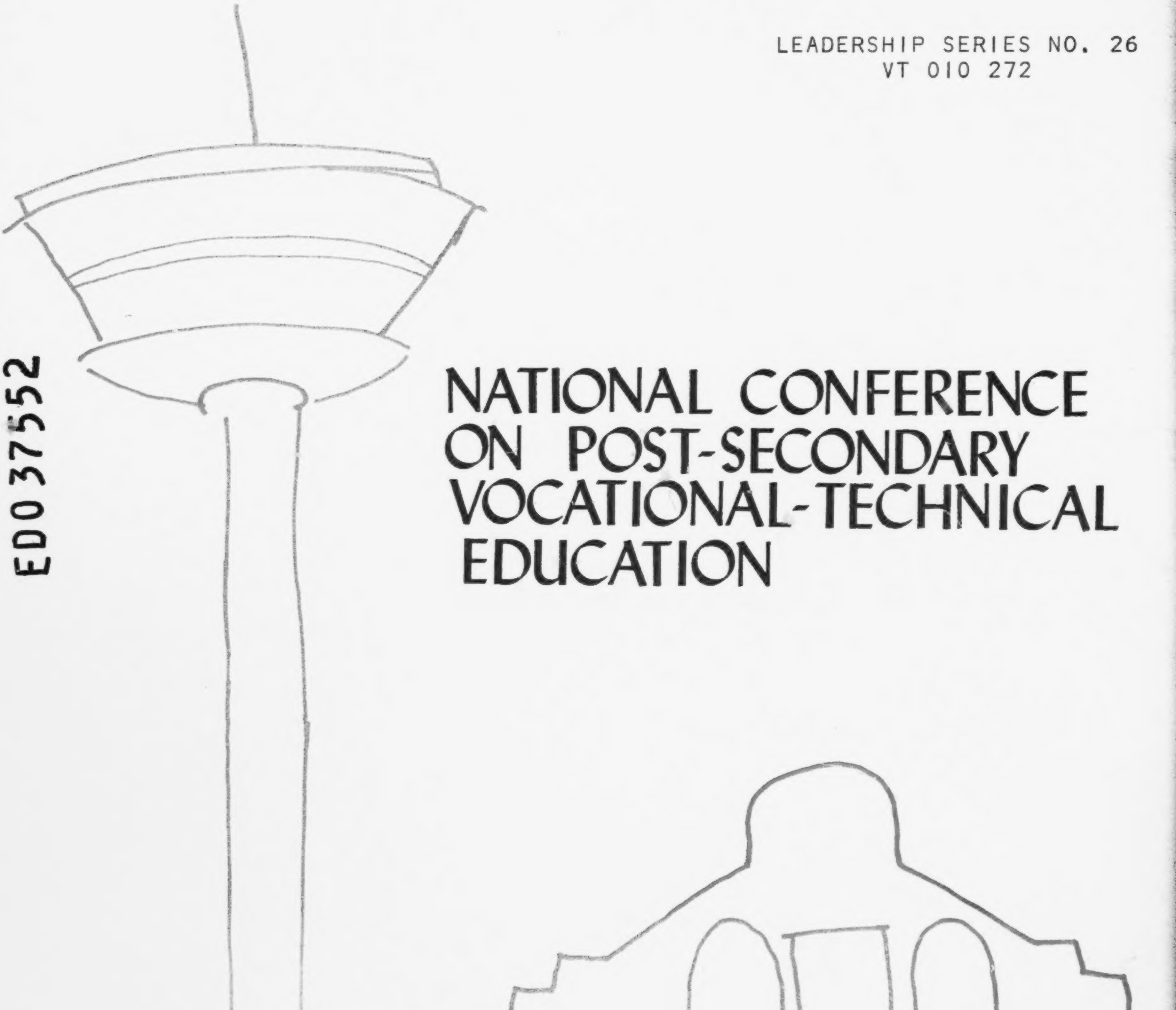

NATIONAL CONFERENCE ON POST-SECONDARY VOCATIONAL-TECHNICAL EDUCATION

SAN ANTONIO, TEXAS
NOVEMBER 5-7, 1969

VT 010 272

THE CENTER FOR VOCATIONAL AND TECHNICAL EDUCATION

THE OHIO STATE UNIVERSITY
1900 Kenny Rd., Columbus, Ohio, 43210

The Center for Vocational and Technical Education has been established as an independent unit on The Ohio State University campus with a grant from the Division of Comprehensive and Vocational Education Research, U. S. Office of Education. It serves a catalytic role in establishing consortia to focus on relevant problems in vocational and technical education. The Center is comprehensive in its commitment and responsibility, multidisciplinary in its approach, and interinstitutional in its program.

The major objectives of The Center follow:

1. To provide continuing reappraisal of the role and function of vocational and technical education in our democratic society;
2. To stimulate and strengthen state, regional, and national programs of applied research and development directed toward the solution of pressing problems in vocational and technical education;
3. To encourage the development of research to improve vocational and technical education in institutions of higher education and other appropriate settings;
4. To conduct research studies directed toward the development of new knowledge and new applications of existing knowledge in vocational and technical education;
5. To upgrade vocational education leadership (state supervisors, teacher educators, research specialists, and others) through an advanced study and inservice education program;
6. To provide a national information retrieval, storage, and dissemination system for vocational and technical education linked with the Educational Resources Information Center located in the U. S. Office of Education.

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LEADERSHIP SERIES NO. 26
VT 010 272

A REPORT
ON A PROJECT CONDUCTED UNDER
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POSITION PAPERS AND DISCUSSION GROUPS' NOTES
FROM
THE NATIONAL CONFERENCE ON POST-SECONDARY VOCATIONAL-TECHNICAL EDUCATION

Compiled and Edited by

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Sponsored by

The Center for Vocational and Technical Education
The Ohio State University
Columbus, Ohio
in cooperation with
The Division of Vocational and Technical Education
of the United States Office of Education,
The American Vocational Association, and
The American Association of Junior Colleges

FEBRUARY 1970

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PREFACE

There exists within vocational-technical education a need for qualified personnel to assume positions of administrative leadership. Of particular concern is the need for administrative leaders, at the post-high school level, who can conceptualize, design, and implement appropriate vocational and technical education programs at state and local levels.

The Vocational Education Act of 1968 reflects the concern of Congress in establishing dynamic and effective post-high school vocational and technical education programs. Congress has further stipulated that a certain portion of federal funds be used in this area. However, of equal importance to funding is the need for post-high school vocational-technical program administrators who have an understanding of the goals and objectives of occupational education, and the expertise to implement programs.

As one means of solving this critical problem, The Center for Vocational and Technical Education at The Ohio State University, in cooperation with the Division of Vocational and Technical Education of the United States Office of Education, The American Vocational Association, and the American Association of Junior Colleges, sponsored The National Conference on Post-Secondary Vocational-Technical Education in San Antonio, Texas on November 5-7, 1969.

This conference provided a mechanism for selected leaders in post-secondary vocational-technical education to examine ways and means of extending and developing vocational-technical programs in post-secondary institutions as reflected in the Vocational Education Act of 1968.

This publication includes six position papers presented to the conference and a synthesis of the comments and recommendations offered by the conference participants which pertain to the position papers or to the conference topical outline.

Recognition is due for the following Center staff members who conducted this conference and prepared this document: Aaron J. Miller, project director, and Carroll R. Hyder, project associate. Appreciation is expressed to the cooperating

INTRODUCTION

The phenomenal growth in vocational-technical education has brought about an increasing need for leadership personnel in vocational-technical education. This need is especially critical at the post-high school level.

In order that post-secondary vocational-technical programs be effective, there exists the necessity for having program administrators who have an understanding of the goals and objectives of occupational education and the expertise to implement suitable programs. Therefore, an adequate expansion of vocational-technical education programming into post-secondary institutions cannot be achieved until the severe shortage of properly trained and oriented personnel is alleviated. It is in response to this area of need that the National Conference for Post-Secondary Vocational-Technical Education was held in San Antonio, Texas, November 5-7, 1969.

PURPOSE:

The general purpose of this conference was to provide a select group of 145 leaders in vocational and technical education, which represents a national cross-section of interests, with the opportunity to address the crucial issues of:

1. Who shall be served by post-high school vocational and technical education?
2. How can essential educational personnel for post-high school vocational and technical programs be developed?
3. What are optimum organizational structures for post-secondary vocational and technical education?

OBJECTIVES:

The specific objectives of this conference were:

1. To familiarize the participants with the national status of post-high school vocational and technical

education, some of the crucial issues, and alternatives for meeting these issues.

2. To review and react to positions taken by national consultants on these crucial issues, and to refine these position statements for inclusion in a volume of national suggested guidelines relative to post-secondary vocational-technical education.

CONFERENCE TOPICS:

Three mutually supporting and related topics were identified as crucial issues for conference discussion. These were:

Topic I: Who shall be served by post-high school vocational-technical education?

Topic II: Educational personnel development for post-high school vocational-technical education.

Topic III: Organizational structure for post-secondary vocational-technical education.

From these three topics, six position papers (two on each topic) were developed and presented to the conference by six nationally prominent authors in vocational and technical education. These position papers as well as the three major topics were then discussed by eight conference groups of approximately 18 participants per group.

This publication is divided into three parts. Each part contains two position papers and a synthesis of the reports submitted by the discussion groups concerning those position papers and comments relating to the topic of that day.

A complete listing of Project staff, conference participants, discussion leaders, conference reporters, position paper authors, and a complete conference schedule will be found in the appendices of this publication.

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PART I

POST-SECONDARY VOCATIONAL-TECHNICAL EDUCATION: SOME CONSIDERATIONS RELATING TO THE STUDENT

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OCCUPATIONAL EDUCATION BEYOND THE HIGH SCHOOL: ITS GROWING SIGNIFICANCE

Vocational-technical education is faced currently with a challenge unparalled in its history. This challenge is summarized by the general purpose of the Vocational Education Amendments of 1968. According to the Amendments, vocational education opportunities should be provided so that all individuals "will have ready access to vocational training or retraining which is of high quality, which is realistic in light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training." This challenge is reified and accorded substance by considering that "a minimum of 17 million people need access to vocational education in addition to the nine million now in such programs."[1] This gap between available opportunities and needs is being created primarily by the drastic changes transpiring in our occupational structure.

Since World War II, the content and context of the work associated with many agricultural, industrial, business and service occupations have changed drastically. The new and ever changing technology, epitomized by automation and the flow process industries, requires a greater number of workers to have more knowledge and extensive skills in order to successfully compete in the labor market. This is supported by such occupational trends as the virtual disappearance of unskilled jobs, in contrast to the existence of a critical manpower shortage in the semi-professional and technical fields.

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[1] This estimation is reported by Lowell A. Burkett, "Access to a Future," *American Education*, 5 (March 1969), p. 2.

The social-cultural changes occurring have greatly increased the need for post-secondary school institutions and programs in occupational preparation and the upgrading of skills for those already employed. It has become increasingly evident that many new and/or advanced levels of work skills and knowledge required for effective job participation in our technological society cannot be met by high school vocational-technical programs. Although the statement "that much, if not nearly all, of the occupational education of the future will have to be conducted at post-high school levels,"[2] is an exaggeration, it is apparent that post-high occupational education is more significant presently than ever before.[3]

SCOPE, PURPOSE, AND LIMITATIONS

Post-secondary occupational education is provided in several different types of institutions, under a variety of conditions and for a number of objectives. Vocational-technical education on the post-high school level is made available by such sources as the following: two-year colleges, four-year colleges and universities, area schools, technical institutes, comprehensive high schools, business and industry, proprietary schools, correctional institutions, organized labor, and the military services.[4] Considering the enormity, complexity, and diversity characteristic of post-secondary vocational-technical education, it was decided to focus upon only a segment of the students enrolled in this vast educational enterprise.

During the subsequent presentation, the term post-secondary vocational-technical students refers to those individuals who have completed or left high school and who are "available for full-time study in preparation for entering the labor market."[5] The institutions attended by these students are generally identified by such names as area schools, technical institutes, and junior or community colleges. The programs in which they are enrolled do not normally lead to the baccalaureate degree. University or college students enrolled in sub-baccalaureate occupational programs are also included in this student population. In addition, the post-secondary occupational students considered in this report were participating in federally assisted programs of occupational study.

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[2] Norman C. Harris, "Curriculum and Instruction in Occupational Education," in *Emphasis: Vocational Education--In the Two-Year College* (Washington, D. C.: American Association of Junior Colleges, 1966), p. 60.

[3] Robert M. Knoebel, "Post-Secondary Occupational Education: Phenomenon of This Generation," *American Vocational Journal*, 43 (April 1968), p. 15.

[4] Excellent summaries covering the broad spectrum of post-secondary occupational education may be found in the following sources: J. Chester Swanson and Ernest G. Kramer, "Vocational Education beyond the High School," in Melvin L. Barlow (Ed.), *Vocational Education: The Sixty-fourth Yearbook of the National Society for the Study of Education* (Chicago: University of Chicago Press, 1965), pp. 168-185, and Grant Venn, *Man, Education and Work: Postsecondary Vocational and Technical Education* (Washington, D. C.: American Council on Education, 1964), especially pp. 85-111.

The basic concern of this paper is post-secondary vocational-technical students--actual, potential, and graduates. The scope of inquiry encompasses three discrete, but seemingly related areas, that pertain directly or indirectly to this central focus. The areas to be discussed are: 1) post-secondary occupational student enrollments and the institutions in which they are enrolled; 2) descriptive data on a national sample of junior college vocational students;[6] and 3) the present status of post-secondary recruitment procedures, the retention rates of vocational-technical schools, and the relative success characteristic of occupational placement. Following these discussions, a recommendation is made that has the potential of promoting more effective occupational student selection by post-secondary institutions, higher program retention rates, and greater occupational placement success.

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[5] *Vocational Education: The Bridge Between Man and His Work* (Washington, D. C.: Department of Health, Education, and Welfare, Office of Education, 1968), p. 19.

[6] The study is being conducted by the author, jointly with Derrald Vaughn. The data for the research were collected from a national sample of vocational-technical students enrolled in 60 public junior colleges. The sampling procedure used, and subsequent data return, suggest the sample tends to be representative of the universe. A group-administered questionnaire was the data collection instrument. With few exceptions, more than 5,000 students provided responses to each of the 172 items composing the questionnaire. In general, the derived data pertain to the following areas: career development; educational aspirations and expectations; occupational aspirations and expectations; goals; and values.

This study is being made pursuant to a grant with the Office of Education, U. S. Department of Health, Education and Welfare, and under the auspices of The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio. The first of five planned publications is entitled, "Selected Characteristics, Experiences and Perceptions of Junior College Students Enrolled in Occupational Programs." It is scheduled for completion by December 1, 1969, and will be published subsequently by The Center for Vocational and Technical Education.

Much of the material presented in this report is based on relevant secondary sources.[7] The uneven distribution of the presented material among the types of post-secondary institutions reflects to a considerable extent the status of research in this area. Furthermore, it was often necessary to present data that are not as recent as desirable if they are to constitute an effective basis for program and institutional development. Nevertheless, it is hoped that this endeavor will provide some added insight to those individuals responsible for planning the growth and development of post-secondary vocational-technical education.

POST-SECONDARY VOCATIONAL-TECHNICAL ENROLLMENTS: NUMBERS, PROGRAMS, DISTRIBUTIONS, AND CHANGES

Available national statistics make it possible to view the occupational post-high school student population from the standpoint of number, the programs in which they are enrolled, and their relative distribution by states. In addition, comparisons can be made between enrollment changes in post-secondary and in other levels of vocational education.

The number of American student enrollees in post-secondary vocational-technical education programs, for 1966 and 1967, are reported in Table 1. Numerical and percentage enrollment changes between the two-year period are also reported for each of the states.

The changes in enrollment indicate a vast majority of the states had a greater number of enrollees during 1967 than they did in 1966. The State of Georgia more than tripled its enrollment. Kentucky, Illinois and Missouri, respectively, more than doubled their enrollments. States which experienced a loss in students in 1967 are Alabama, Montana, North Dakota, Washington, and Wisconsin.

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[7] In this connection, the writer wishes to acknowledge his appreciation to the following individuals who assisted in the literature survey: Mrs. Sue Frankie, Research Librarian and Mr. Derrald Vaughn, Research Associate and Ph.D. Candidate, Department of Psychology, The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio; and Mr. Frank H. Echols, Jr., Departmental Assistant, and Mr. Gary Faulkner, Research Assistant, Ph.D. Candidates, Department of Sociology and Anthropology, University of Georgia, Athens, Georgia.

TABLE I

POST-SECONDARY ENROLLMENT IN VOCATIONAL-TECHNICAL EDUCATION CLASSES, BY STATE: CHANGE, 1966 TO 1967*

State	Enrollment 1966	Enrollment 1967	Change	Percent Change
Alabama	2,345	1,340	-1,005	-42.9
Alaska	163	191	+28	+17.2
Arizona	2,891	4,105	+1,214	+42.0
Arkansas	3,127	3,214	+87	+2.8
California	155,171	181,437	+26,266	+16.9
Colorado	7,302	8,737	+1,435	+19.6
Connecticut	3,050	5,025	+1,975	+64.8
Delaware	---	6	+6	--.-
District of Columbia	1,129	655	-474	-42.0
Florida	17,865	20,620	+2,755	+15.4
Georgia	3,641	12,028	+8,387	+230.3
Hawaii	2,442	3,077	+635	+26.0
Idaho	962	1,565	+603	+62.7
Illinois	3,673	7,861	+4,188	+114.0
Indiana	771	1,209	+438	+56.8
Iowa	1,815	2,634	+819	+45.1
Kansas	2,555	3,490	+935	+36.6
Kentucky	1,823	4,192	+2,369	+130.0
Louisiana	12,800	14,088	+1,288	+10.1
Maine	803	929	+126	+15.7
Maryland	2,276	3,315	+1,039	+45.6
Massachusetts	3,619	4,846	+1,227	+33.9
Michigan	19,472	26,390	+6,918	+35.5
Minnesota	5,079	8,017	+2,938	+57.8
Mississippi	2,646	4,087	+1,441	+54.4
Missouri	1,977	4,014	+2,037	+103.0
Montana	1,249	556	-693	-55.5
Nebraska	1,395	2,309	+914	+65.5
Nevada	291	422	+131	+45.0
New Hampshire	853	1,159	+306	+35.9
New Jersey	1,165	1,566	+401	+34.4
New Mexico	639	1,194	+555	+86.8
New York	29,749	32,521	+2,772	+9.3
North Carolina	7,261	11,049	+3,788	+52.2
North Dakota	2,507	2,334	-173	-6.9
Ohio	3,708	5,138	+1,430	+38.6
Oklahoma	2,074	2,104	+30	+1.4
Oregon	4,617	4,797	+180	+3.9
Pennsylvania	3,300	3,850	+550	+16.7
Rhode Island	---	407	+407	--.-
South Carolina	3,224	4,059	+835	+25.9
South Dakota	391	423	+32	+8.2
Tennessee	5,264	6,774	+1,510	+28.7

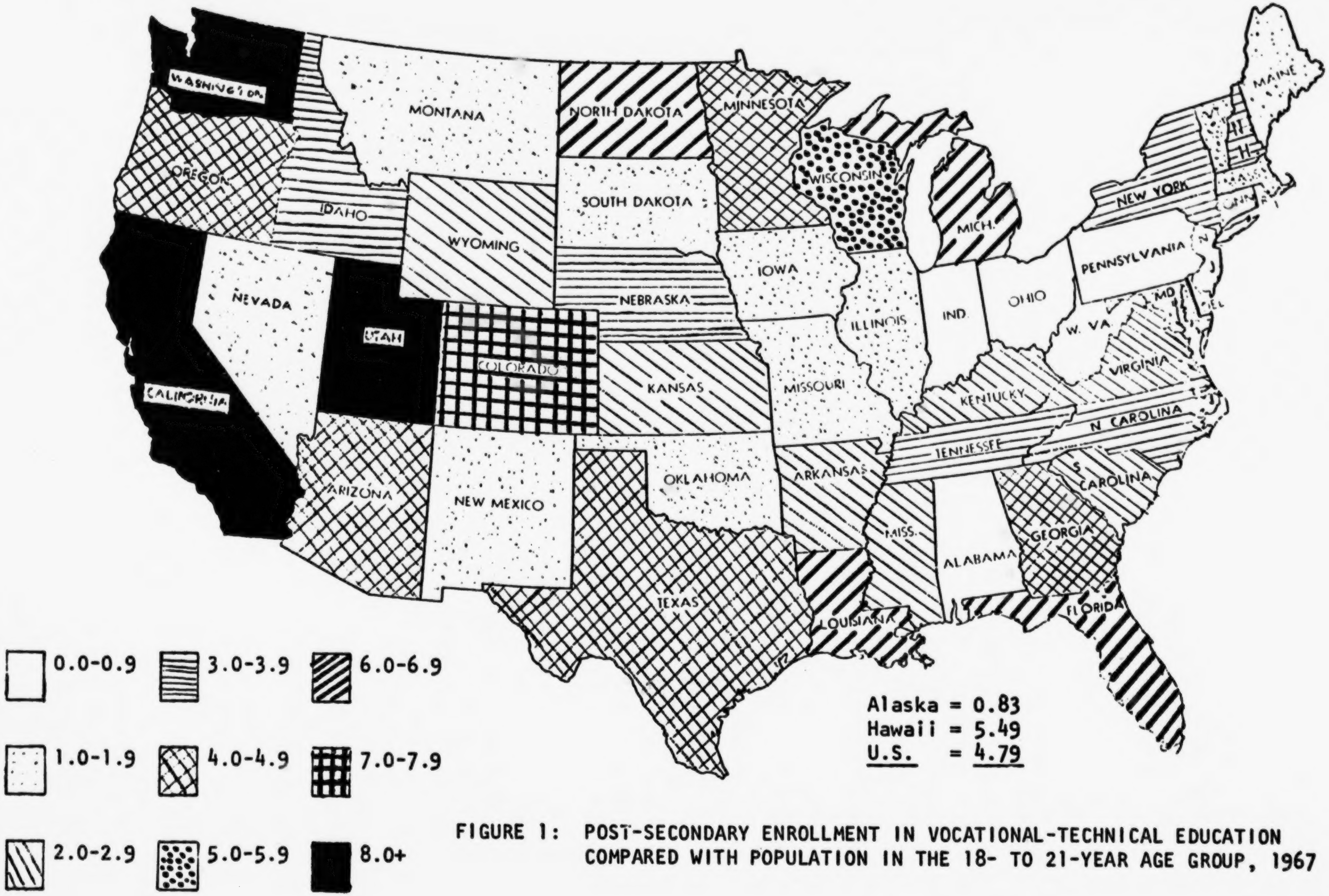
State	Enrollment 1966	Enrollment 1967	Change	Percent Change
Texas	19,494	26,034	+6,540	+33.5
Utah	3,463	4,796	+1,333	+38.5
Vermont	386	416	+30	+7.8
Virginia	4,932	6,667	+1,735	+35.2
Washington	55,854	35,166	-20,688	-37.0
West Virginia	496	790	+294	+59.3
Wisconsin	28,468	12,451	-16,017	-56.3
Wyoming	314	406	+92	+29.3
Guam	445	103	-342	-76.8
Puerto Rico	1,161	5,343	+4,182	+360.2
TOTAL	442,097	499,906	+57,809	+13.1

*The data for 1966 were secured from *Vocational & Technical Education, Annual Report, Fiscal Year 1966* (Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, 1968), Table 3, p. 73.

The data for 1967 were secured from *Vocational & Technical Education, Annual Report, Fiscal Year 1967* (Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, 1969), Table 3, p. 105.

In 1967, California reported the greatest number of post-secondary vocational students (181,437), or slightly more than one-third of the total number that composed this student group. Significant numbers of students were also reported in the following states: Washington (35,166); New York (32,521); Michigan (26,390); Texas (26,034); and Florida (20,620). If the number of occupational students on the post-secondary level in these five states is combined with the California enrollees, the result is that 322,168 post-high school vocational students (approximately 65 percent of all the students) were attending post-secondary vocational institutions in these six states.

Major variations still exist among the states when a control is made using a segment of each state's population that consists of the most potential enrollees in post-secondary programs. Figure 1 has been prepared to show the relationship between 1967


WASHINGTON
OREGON
CALIFORNIA
NEVADA
IDAHO
MONTANA
WYOMING
UTAH
COLORADO
ARIZONA
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SOUTH DAKOTA
NEBRASKA
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3.0-3.9
4.0-4.9
5.0-5.9
6.0-6.9
7.0-7.9
8.0+
Alaska = 0.83
Hawaii = 5.49
U.S. = 4.79

FIGURE 1: POST-SECONDARY ENROLLMENT IN VOCATIONAL-TECHNICAL EDUCATION COMPARED WITH POPULATION IN THE 18- TO 21-YEAR AGE GROUP, 1967

enrollment data and the population in the 18 to 21 year old category.[8]

Table 2 contains the number and percent of vocational-technical students enrolled on the post-secondary level, by occupational programs, as well as the percentage changes that have occurred during the past three years. The major conclusion to be drawn from the table is that each of the seven program areas has experienced significant student increases, with the exception of the technical area which had an increment of only 4.6 percent. The total enrollees in distributive education had increased the most, from 15,883 in 1966, to 44,824 in 1968, or a percentage change of 183.1. Other programs that have undergone significant student growth were agriculture (84.3 percent) and health (65.7 percent). The number of vocational students in all of the programs increased 34.1 percent. A major portion of this change occurred between 1967 and 1968. This reflects the growing influence of the Vocational Education Act of 1963.

This table also shows that a disproportionate representation of students exists across the occupational program areas. In general, "office" students constituted slightly more than one-third of the total post-secondary group, while approximately one-fourth of the students were enrolled in trade and industrial programs, and about one-fifth were in technical programs. For each of the three years examined, less than one percent of the students were pursuing post-secondary home economics programs and less than two percent were preparing for a job in distributive education.

Additional understanding about the comparative growth of each program area can be derived by further examining Table 2; certain generalizations are applicable. In comparison to the percent of vocational students in the other six programs, distributive education's share of students has increased the most, followed by the health occupations area. The proportionate number of students in agriculture and office programs has tended to be relatively stable. The technical and trade and industrial areas have experienced an annual proportionate decline for the years, 1967 and 1968.

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[8] Of the age groups on which statistics were available for 1967, the 18 to 21 category more closely approximated that segment of the population most likely to be students in post-secondary vocational programs. The number of persons in this age group for each state was determined by subtracting the number of individuals reported as 21 years and over from those who were 18 years and over. For the source of these data, see: U. S. Department of Commerce, Bureau of the Census, "Population Estimates," Series P-25, No. 420, April 17, 1969, Table 1, p. 6. It should be noted that over three-fourths of the students composing the sample for the Junior College Survey were in this age range.

TABLE 2

POST-SECONDARY ENROLLMENT IN VOCATIONAL-TECHNICAL EDUCATION CLASSES, BY TYPE OF PROGRAM, UNITED STATES AND OUTLYING AREAS, 1966 TO 1968*

	1966		1967		1968		Percentage Change,
Type of Program	Number	Percent of Year Total	Number	Percent of Year Total	Number	Percent of Year Total	1966 to 1968
Agriculture	5,987	1.4	8,093	1.6	11,036	1.9	84.3
Distributive	15,883	3.6	21,003	4.2	44,824	7.6	183.1
Health	36,496	8.3	54,135	10.8	64,592	10.9	77.0
Home Economics	2,652	.6	3,506	.7	4,395	.7	65.7
Office	165,439	37.4	192,639	38.5	225,182	38.0	36.1
Technical	100,151	22.6	97,156	19.5	104,746	17.7	4.6
Trade and Industry	115,539	26.1	123,374	24.7	137,732	23.1	19.2
Other					463	.1	
ALL PROGRAMS	442,097	100.0	499,906	100.0	592,970	100.0	34.1

*U. S. Department of Health, Education, and Welfare, Office of Education, "Vocational and Technical Education"; and unpublished data.

A comparison of student growth on the post-secondary level with student growth in each of the other three institutional levels is of interest. For each of the pairs of years between which comparisons were made, the percentage increases of post-high school enrollees exceeded the mean percentage growth of students enrolled in all programs, with the exception of the 1967-1966 comparison. Whereas the mean growth for this two-year period was only 13.0, the total mean growth was 16.1. Post-secondary's greatest increase occurred between 1965 and 1966, with the extent of increase greatly exceeding that experienced by secondary, adult, and special needs programs. During the subsequent two-year comparison, however, as implied above, the percent of increase in post-secondary vocational students dropped considerably. It does not compare favorably at all with the increases that occurred on the other three institutional levels. Between 1967 and 1968, the relative growth of post-secondary student enrollments ranked a distant second to special needs and exceeded the growth of both secondary and adult. These data are presented in Table 3.

TABLE 3

PERCENT INCREASE OF STUDENTS ENROLLED IN VOCATIONAL-TECHNICAL PROGRAMS, BETWEEN RECENT ADJACENT YEARS, BY LEVEL, UNITED STATES AND OUTLYING AREAS*

Level	1966/1965 Percent Increase	1967/1966 Percent Increase	1968/1967 Percent Increase
Secondary	8.1	15.8	8.8
Post-Secondary	113.1	13.0	19.4
Adult	6.4	16.2	1.4
Special Needs	91.1	50.3	50.7
TOTAL	11.8	16.1	6.9

*Data provided by Department of Health, Education, and Welfare, Office of Education, Bureau of Adult, Vocational, and Library Programs.

Data are included in Table 4 that demonstrate the total enrollments of vocational-technical students, by institutional level, for the years 1966 to 1968. In addition, percentages reflecting the number of each year's total students that were enrolled by institutional level are reported. Focusing upon these

TABLE 4

ENROLLMENT IN VOCATIONAL-TECHNICAL EDUCATION CLASSES, BY LEVEL, UNITED STATES AND OUTLYING AREAS, 1966 TO 1968*

Level	1966 Number	1966 Percent of Year Total	1967 Number	1967 Percent of Year Total	1968 Number	1968 Percent of Year Total	Percentage Change, 1966 to 1968
Secondary	3,048,248	50.2	3,532,823	50.1	3,842,896	50.0	26.1
Post-Secondary	442,097	7.3	499,906	7.1	592,970	7.9	34.1
Adult	2,530,712	41.7	2,941,109	41.7	2,987,070	39.6	18.0
Special Needs	49,002	.8	73,663	1.1	111,000	1.5	126.5
ALL PROGRAMS	6,070,059	100.0	7,047,501	100.0	7,533,936	100.0	24.1

*U. S. Department of Health, Education, and Welfare, Office of Education, "Vocational and Technical Education"; and unpublished data.

percentages, Table 4 reveals that the percent of post-secondary vocational students experienced a slight decrease in 1967 and a decided increase in 1968. Although over one-half of the occupational students were enrolled in secondary programs during each of the three years, the proportion of students enrolled in such programs has remained relatively the same during this period. The adult student population was represented in proportionately the same number in 1966 and 1967, and had decreased slightly in 1968. That segment of vocational students identified as "special needs" has become progressively larger during the past three years.

POST-SECONDARY VOCATIONAL-TECHNICAL INSTITUTIONS: TYPES, NUMBERS, DISTRIBUTIONS AND TRENDS

Convenient accessibility to a post-secondary school represents a major consideration on the part of prospective students regarding whether or not they attend such school.[9] Statistics are available by states that give a rough indication of accessibility. In addition, it is possible to describe the changes that have taken place in number of schools over recent years. These and other matters are discussed below.

In the past, it was not uncommon for schools that provided instruction for several different occupational categories to be reported several times. This problem was compounded by the fact that occupational education is provided by a variety of institutional structures. However, beginning with 1965, data on the number of vocational schools have been reported that represent an accurate account of individual schools.

Reported data on the number of post-secondary schools, by institutional type, and for each of the states are indicated in Table 5. This shows that considerable variation exists among the states in the number of schools, classified as to type of post-high school institution.

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[9] L. L. Medsker and J. W. Trent, *The Influence of Different Types of Public Higher Institutions on College Attendance from Varying Socioeconomic Ability Levels*, USOE Cooperative Research Project No. 438 (Berkeley: Center for Research and Development in Higher Education, University of California, 1965), and W. L. Bashaw, "The Effect of Community Junior Colleges on the Proportion of the Local Population Who Seek Higher Education," *Journal of Educational Research*, 58 (March 1965), pp. 327-329.

TABLE 5

NUMBER OF POST-SECONDARY SCHOOLS OFFERING VOCATIONAL-TECHNICAL EDUCATION PROGRAMS, BY STATE AND TYPE OF INSTITUTION, 1967*

State	Technical-Vocational School (Post-Secondary)	Community or Junior College	College or University	Combination Secondary/Post-Secondary	Total
Alabama	27	1	1	-	29
Alaska	-	4	1	-	5
Arizona	-	6	2	-	8
Arkansas	7	2	2	-	11
California	-	78	1	-	79
Colorado	-	6	3	2	11
Connecticut	4	5	2	2	13
Delaware	-	-	2	-	2
Florida	126	22	1	20	169
Georgia	64	4	-	-	68
Hawaii	2	4	-	-	6
Idaho	-	3	2	-	5
Illinois	2	21	2	-	25
Indiana	-	1	2	1	4
Iowa	5	11	3	1	20
Kansas	-	4	5	12	21
Kentucky	1	-	1	25	27
Louisiana	33	-	-	-	33
Maine	6	-	1	-	7
Maryland	-	7	1	1	9
Massachusetts	-	10	-	20	30
Michigan	-	24	10	4	38
Minnesota	24	5	5	36	70
Mississippi	1	19	1	-	21
Missouri	1	7	7	4	19
Montana	-	1	2	1	4
Nebraska	4	3	2	-	9
Nevada	1	-	2	1	4
New Hampshire	5	-	-	-	5
New Jersey	3	-	6	15	24
New Mexico	2	3	5	1	11
New York	-	34	3	-	37
North Carolina	31	12	-	-	43
North Dakota	1	4	3	-	8
Ohio	33	3	2	-	38
Oklahoma	8	19	3	24	54
Oregon	-	11	-	-	11
Pennsylvania	12	7	6	-	25
Rhode Island	1	1	-	-	2

State	Technical-Vocational School (Post-Secondary)	Community or Junior College	College or University	Combination Secondary/Post-Secondary	Total
South Carolina	10	-	-	1	11
South Dakota	1	1	1	3	6
Tennessee	19	-	-	-	19
Texas	3	27	3	2	35
Utah	2	3	3	-	8
Vermont	3	-	-	-	3
Virginia	3	3	4	4	14
Washington	9	19	1	-	29
West Virginia	8	-	4	5	17
Wisconsin	63	2	-	-	65
Wyoming	-	5	-	-	5
TOTAL	525	402	105	185	1217

*The data for 1967 were secured from *Vocational & Technical Education, Annual Report, Fiscal Year 1967* (Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, 1969), Table 14, p. 113.

Eighteen of the states did not have any technical-vocational post-secondary type schools. In contrast, Florida had 126, or about one-fourth of the total, followed by Georgia and Wisconsin where, respectively, 64 and 63 (about one-tenth of the schools each) of this type of school were located. The states of Ohio, North Carolina, and Louisiana, accordingly, had 33, 31, and 30 of these schools.

Table 5 also reports the number of community or junior colleges offering vocational education courses are unevenly distributed among the states. In 1967, over three-fifths of the states (31) reported having five or less of these institutions. In contrast, California had 78 junior colleges (19 percent of the total), and 34 were reported existing in New York.

Of the 190 schools classified as combination secondary/post-secondary in Table 5, two-thirds are located in the states of Minnesota, Kentucky, Oklahoma, Florida, and Massachusetts. Thirty-five of the states had one or less schools belonging to this institutional type.

As one would expect, the number of universities or colleges offering post-secondary vocational programs was more evenly distributed throughout the nation than was each of the other types of institutions. Michigan was the only state that had more than seven of these institutions providing vocational education within its boundaries. There were 38 states that had vocational training offered by universities or colleges in the range extending from one to three schools.

An indication of the growth and development of post-secondary vocational and technical education is the change in number of schools providing occupational education on this level. Generally, there is a high correlation between the number of schools and the availability of training opportunities.

Tabulations relating to the number of post-secondary schools, by type of institution, and for the years 1965 to 1967 are presented in Table 6. Other types of institutions are presented for purposes of comparison.

TABLE 6

NUMBER OF SCHOOLS OFFERING VOCATIONAL-TECHNICAL PROGRAMS, BY TYPE OF INSTITUTION AND PERCENT OF TOTAL, 1965 TO 1967*

	1965		1966		1967	
Type of Institution	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Regular or Comprehensive Secondary School	15,938	93.2	15,592	91.3	16,361	91.3
Vocational-Technical Secondary (area, regional, local)	394	2.3	431	2.5	325	1.8
Community or Junior College	325	1.9	385	2.3	402	2.3
Technical-Vocational Post-Secondary	225	1.3	290	1.7	526	2.9
Combination Secondary/Post-Secondary	130	.8	186	1.1	190	1.1
University or College	72	.4	168	1.0	107	.6

Type of Institution	1965 Number	1965 Percent of Total	1966 Number	1966 Percent of Total	1967 Number	1967 Percent of Total
Under Contract	11	.1	14	.1	5	-.-
TOTAL	17,095	100.0	17,066	100.0	17,916	100.0

*The 1965 and 1966 data were cited in *Vocational Education: The Bridge Between Man and His Work* (Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, 1968), p. 27.

The 1967 data were provided by Department of Health, Education, and Welfare, Office of Education, Bureau of Adult, Vocational, and Library Programs.

The table shows that the number of post-secondary occupational schools, according to specific types, has increased appreciably since 1965. However, in comparison to the percent of the total number of schools that offered vocational-technical programs on the secondary level, the percentage increases of schools belonging to the community or junior college, technical-vocational post-secondary, combination secondary/post-secondary, and university or college categories are relatively slight. The most striking data relate to the fact that over 90 percent of the schools, for each of the three years, were comprehensive secondary schools.

THE JUNIOR COLLEGE SURVEY: SELECTED FINDINGS

Effective planning in post-secondary vocational-technical education must be realistic and congruent with the needs of students most likely to pursue these educational opportunities. Developments with reference to admission policies, counseling, curriculum, and instruction must keep in mind the general characteristics and aspirations of these students. Furthermore, such information can serve as a basis for the identification of those segments of the population which have limited involvement in this educational process.

In this section, the discussion is primarily limited to selected relevant findings of one study (Junior College Survey)[10] on students enrolled in occupational programs.[11] This research is presently in progress. Consequently, only preliminary data are reported.

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[10] See footnote 6.

The data pertaining to students enrolled in junior college occupational programs to be presented are as follows: personal characteristics; ability; self-esteem; socioeconomic background; source of greatest influence in the choice of program; grade in school during which occupational plans were reached; initial activity following high school; reason for attending particular college; most important goal in attending college; main source of financial support; evaluation of occupational training; and educational aspirations and expectations.

PERSONAL CHARACTERISTICS

Brief consideration will be given to describing the junior college occupational students in the structural characteristics of sex, age, marital status, and race.

There were approximately three males to two females in the sample. Of the 5,149 students on which data were available, 58.8 percent were males and 41.2 percent females.

Over three-fourths of the sample (78.4 percent) were 21 years of age or younger. In comparison to any other specific age group, 19 year olds were most frequently represented as suggested by one-third (36.1 percent) of the 5,134 respondents being in this age group. The oldest category of 24 years and over contained 15.8 percent of the junior college vocational students.

A large majority (80 percent) of the sample members were single. A married status was characteristic of 17.7 percent of the sample. The remaining proportion, or 2.3 percent, were either widowed, divorced, or separated.

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[11] An excellent synthesis and critique of research relating to the junior college student has been made by K. Patricia Cross, *The Junior College Student: A Research Description* (Princeton: Educational Testing Service, 1968). Cross' analysis is concerned with junior college students in general. Actually, a paucity of data exist that pertain directly to junior college occupational students.

The reader interested in a description of technical students should consult Aaron J. Miller, "The Technical Student: A Changing Profile," *Journal of Industrial Teacher Education*, 6 (Winter 1969), pp. 49-54.

The percentage distribution of the sample (N=5,127) according to race are as follows: white (91.6); black (5.3); oriental (1.7); and other (1.4). Census data were used to compare the proportions of the United States population in the 18 to 24 age category who were white and non-white (92 percent Negro in 1960), with the racial distribution of the subjects who participated in this research. For 1960, 12.2 percent of the individuals in the 18 to 24 age group were non-white and 87.8 percent were white. From the standpoint of proportionate representation, the analysis suggests the non-white sub-sample (summation of black, oriental and "other") is slightly under-represented in the junior college sample. This under-representation is magnified when it is considered that junior colleges attract proportionately more students from lower socioeconomic backgrounds than do four-year institutions, and that blacks, in particular, are over-represented at this level of the social class system.

ABILITY

Academic ability has been studied in more detail than any other variable relative to successful adjustment and achievement in higher education. Self-reported high school grades were used as the measure of ability in the Junior College Survey.[12]

Table 7 has been prepared to show the distribution of self-reported grades by the respondents, as well as comparable data for other samples of students. Initially, attention is called to the grade distribution of the 5,125 vocational students in the Junior College Survey. It is important to stress that although vocational-technical education has often been considered a refuge for less able students, over one-fourth of the total sample were "B" or better high school students; over 90 percent of the sample were "C" or better students. One conclusion suggested by these data is that few academically below average high school students receive vocational education beyond high school at the junior college level.

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[12] Other researchers have shown that self-reported high school grades are highly accurate when compared with actual high school grades. For instance, see John L. Holland and James M. Richards, Jr., *Academic and Non-Academic Accomplishment in a Representative Sample Taken from a Population of 612,000*, Research Report No. 12 (Iowa City: American College Testing Program, 1966).

TABLE 7

PERCENTAGE COMPARISON OF HIGH SCHOOL GRADES OF VOCATIONAL-TECHNICAL STUDENTS IN THE JUNIOR COLLEGE SURVEY WITH GRADES OF STUDENT GROUPS IN THE ASTIN, PANOS, AND CREAGER STUDY*

High School Grades	Vocational-Technical Students (Junior College Survey)	Astin, Panos, Creager Study**		
		Entering Public Junior College Students	Entering Public 4-year College Students	Entering University Students
Mostly A's	2.2	.8	3.8	6.8
Mostly A's and B's	13.6	9.4	25.6	33.0
Mostly B's	10.9	16.3	25.4	24.9
Mostly B's and C's	39.3	41.9	31.6	26.8
Mostly C's	24.3	29.6	12.9	8.0
Mostly C's and D's	8.7	No comparable category	No comparable category	No comparable category
Mostly D's or Below	1.0	1.9	.7	.4
TOTAL	100.0	99.9	100.0	99.9

* Astin, Panos, and Creager, *op. cit.*

**It was necessary to collapse some of the grades reported in the Astin, Panos, and Creager study to conform to the fewer number of grade categories used in the Junior College Survey.

The present data are supported by that of Astin, Panos, and Creager.[13] A comparison indicates that occupational students do not differ greatly in academic ability from junior college students in general (See Table 7). The somewhat larger percentages of high ability students among the vocational-technical sample is probably explained by the fact that the Astin, Panos, and Creager data were from entering students; sophomores constitute nearly 40 percent of the Junior College Survey sample. It is likely that some attrition of lower ability students has already occurred.

The comparative data in Table 7 also portray the often reported skewness toward the lower end of the scale of junior college students relative to students enrolled in four-year colleges and universities.

SELF-ESTEEM

It is commonly accepted that a person's self-definition has important implications for his motivational system. Several researchers have shown that many students enroll in junior colleges because they are uncertain of their interests and motivation for a baccalaureate program.[14] How do the students in this sample of occupational students perceive themselves?

The term self-esteem refers to an estimation of self-worth or self-acceptance. For illustrative purposes, a person of high-esteem "feels that he is a person of worth; he respects himself for what he is, but he does not stand in awe of himself, nor does he expect others to stand in awe of him. He does not necessarily consider himself superior to others."[15]

Data were collected on nine of the 10 items devised by Rosenberg and used as a measurement of self-esteem. Using a modification of his scoring procedures, the individual scores were categorized into "high," "medium," and "low" self-image estimations.[16] Of the 4,962 vocational junior college students who responded to all nine items, it was found that 54.1 percent had "high" self-esteem, 37.4 percent had "medium" self-esteem, and 8.5 percent had "low" self-esteem.

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[13] A. W. Astin; R. J. Panos; and J. A. Creager, *National Norms for Entering College Freshmen - Fall, 1966*, ACE Research Reports (Washington, D. C.: American Council on Education, 1967).

[14] For Example, see D. M. Knoell and L. L. Medsker, *From Junior to Senior College: A National Study of the Transfer Student* (Washington, D. C.: American Council on Education, 1965).

[15] Morris Rosenberg, *Society and the Adolescent Self-Image* (Princeton: Princeton University Press, 1965), p. 31.

[16] *Ibid.*, pp. 16-31.

No comparable data on junior college students are available. When a general comparison was made with Rosenberg's findings, based on a large representative sample of high school students,[17] it was found that a definite tendency existed for the "self-concepts" of the vocational-technical students to be more favorable. This is understandable since the members of Rosenberg's sample were junior and senior high school students. During this stage of the life cycle, problems of self-definition are quite common.

SOCIOECONOMIC BACKGROUND

Junior colleges have been often viewed as having a democratizing effect, making available greater opportunities for members of the lower socioeconomic classes to pursue a higher education.[18] Pervious studies have consistently shown a rank ordering of types of colleges on the basis of socioeconomic variables, e.g., father's occupation, income, and education. Generally, private universities attract the children of upper income, higher occupational level, college-educated parents, the public four-year and two-year college, to a still greater extent, attract much smaller proportions of students from high socioeconomic backgrounds.[19]

An important indicator of socioeconomic background is represented by father's income. Table 8 enumerates findings on the income categories selected by the junior college occupational students. It is found that over one-third of the sample reported fathers having a yearly income of $9,000 or more. Approximately two-fifths of the sample specified their fathers earned $7,000 or less.

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[17] For a discussion regarding the sample, see *ibid.*, pp. 297-299.

[18] For example, see John E. Roueche, *Salvage, Redirection, or Custody? Remedial Education in the Community Junior College* (Washington, D. C.: American Association of Junior Colleges, 1968), pp. 5-11.

[19] For a review of pertinent literature, see Cross, *op. cit.*, pp. 15-18.

TABLE 8

FATHER'S INCOME AS INDICATED BY A NATIONAL SAMPLE OF JUNIOR COLLEGE STUDENTS ENROLLED IN OCCUPATIONAL PROGRAMS

Father's Income	Number	Percent
I have no idea.	1,097	21.5
Less than $3,000	172	3.4
$3,000 to $4,999	425	8.3
$5,000 to $6,999	770	15.1
$7,000 to $8,999	810	15.9
$9,000 to $10,999	750	14.7
$11,000 to $12,999	459	9.0
$13,000 to $14,999	225	4.4
Over $15,000	388	7.6
TOTAL	5,096	99.9

Data relating to the educational achievements of the students' fathers are reported in Table 9. The table reveals that slightly more than 40 percent of the fathers did not graduate from high school, about 55 percent of them graduated from high school, and of this group, approximately one-fourth had at least some college training.

TABLE 9

FATHER'S EDUCATION AS INDICATED BY A NATIONAL SAMPLE OF JUNIOR COLLEGE STUDENTS ENROLLED IN OCCUPATIONAL PROGRAMS

Father's Education	Number	Percent
Less than 7 years of school	673	13.2
Completed junior high school (9 years)	723	14.2
Some high school (did not graduate)	808	15.9
Graduated from high school or equivalent	1,518	29.9

Father's Education	Number	Percent
Some college or university or other post-high school training	803	15.8
Graduated from college or university	348	6.8
Some graduate or professional school	68	1.3
Completed graduate or professional school	144	2.8
TOTAL	5,085	99.9

These findings, supported by data on the occupational distributions of the respondents' fathers (not presented in this paper), tend to concur with the conclusion reached by D'Amico and Bokelman, that "the public junior college has provided opportunity to many people who otherwise would not have continued with education beyond the high school."[20] They also suggest, however, that individuals from the lower extreme of the class structure are disproportionately under-represented as students in post-secondary vocational programs.

SOURCE OF GREATEST INFLUENCE IN THE CHOICE OF PROGRAM

The vocational-technical students composing the national sample which provided the data being presented were asked to identify the category of individuals which had the greatest influence in their program choice. Unfortunately for purposes of analysis, a significant number of the responses was in the "other" category. Table 10 does reveal, however, that guidance counselors were selected by approximately nine percent of the students, ranking third to "father" and "friends or relatives--other than parents, brothers, or sisters" as to the number of times selected.

As one would expect, the guidance counselor played a more significant role in informing the students about the particular program of study in which they were enrolled. According to the findings, not reported in this paper in tabular form, one-fifth of the students indicated the "high school vocational or guidance counselor" had served him in this capacity. Another one-fifth of the vocational students said "friend" had performed this

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[20] Louis A. D'Amico and Robert W. Bokelman, "Tuition and Fee Charges in Public Junior Colleges, 1961-1962," *Junior College Journal*, 33 (September 1962), pp. 36-39.

TABLE 10

SOURCE OF GREATEST INFLUENCE IN THE CHOICE OF COLLEGE PROGRAM AS INDICATED BY A NATIONAL SAMPLE OF JUNIOR COLLEGE STUDENTS ENROLLED IN OCCUPATIONAL PROGRAMS

Source of Influence	Number	Percent
Father	593	11.7
Mother	467	9.2
Brothers or sisters	187	3.7
Fellow students	197	3.9
Guidance counselor	471	9.3
High school vocational education teacher	264	5.2
Other high school teacher	165	3.3
Post-high school teacher	49	1.0
Friend, or relatives (Other than parents, brothers, or sisters)	550	10.8
Other	2,131	42.0
TOTAL	5,074	100.1

function for them. The "high school vocational education teacher" and "parents" were each picked by seven percent of the sample.

GRADE IN SCHOOL DURING WHICH OCCUPATIONAL PLANS WERE REACHED

The junior college occupational students were also asked to indicate during which school year they reached a decision concerning their occupational plans. As Table 11 shows, nearly one-fourth of the sample replied they had made the decision during their senior year in high school. More important, however, is the finding that nearly one-third of the students decided their occupational choices after leaving high school. In fact, nearly one-fifth of the respondents either reached their career decisions after they were enrolled in junior colleges, or were still undecided at the time this study was conducted. This underscores, among other things, the significant need for effective counseling.

TABLE 11

GRADE IN SCHOOL IN WHICH A DECISION WAS REACHED
CONCERNING PRESENT OCCUPATIONAL PLANS AS INDICATED BY A
NATIONAL SAMPLE OF JUNIOR COLLEGE STUDENTS
ENROLLED IN OCCUPATIONAL PROGRAMS

Grade in School	Number	Percent
Grade school	263	5.4
Junior high school (7 - 9)	420	8.6
Sophomore year in high school	429	8.8
Junior year in high school	638	13.1
Senior year in high school	1,134	23.3
Period between high school and college	739	15.2
Freshman year of junior college	470	9.7
Sophomore year of junior college	183	3.8
Still undecided	200	4.1
Don't remember	387	8.0
TOTAL	4,863	100.0

INITIAL ACTIVITY FOLLOWING HIGH SCHOOL

There appears to be limited data on the period between high school and college, particularly information concerning individuals who do not attend college immediately following high school. As such, it was of interest to determine the post-high school activity of the respondents that may have affected their educational plans, especially, if they had not reached career decisions. These results are presented in Table 12.

TABLE 12

INITIAL ACTIVITY FOLLOWING HIGH SCHOOL AS INDICATED BY A NATIONAL SAMPLE OF JUNIOR COLLEGE STUDENTS ENROLLED IN OCCUPATIONAL PROGRAMS

Initial Activity	Number	Percent
Came directly to this college	2,750	53.9
Attended another school first	608	11.9
Worked before entering college	1,007	19.7
Was in military service	428	8.4
Stayed at home, not working	93	1.8
Other	217	4.3
TOTAL	5,103	100.0

Over one-half of the students came directly to the junior colleges they were attending at the time they responded to the questionnaire used to elicit data for this research. Close to one-fourth of them worked before entering junior college. Slightly more than one-tenth (608) of the occupational students attended another school before they became junior college enrollees. We have no way of knowing what percent of the 608 students were enrolled in baccalaureate programs, and if so, the reason(s) why they found it necessary to abandon hopes for a bachelor's degree. It appears safe to speculate that a significant number of these students were pursuing bachelor's degrees at other institutions and were forced to leave for academic reasons. Many members of this group could perhaps have been spared considerable frustrations, if with the aid of effective counseling, they could have been induced to pursue occupational training when they first began their higher education careers.

Furthermore, a sizable portion of college withdrawals from four-year institutions does not reenter the higher education mainstream and would appear to constitute a significant target population, representing many prospective students for post-secondary occupational training. It is likely that two-year occupational programs would provide a great number of these students with the satisfaction and success that eluded them in baccalaureate programs. It is not being suggested that post-secondary institutions should become the refuge for rejects of baccalaureate institutions. It is suggested , however, that students have a gradation of many capacities in many diverse areas, rather than a gradation of ability as normally defined and traditionally measured. In a complex society, many kinds of abilities are required. Students who are failures in one education setting, emphasizing particular abilities, can experience considerable success in another educational setting stressing other abilities.

REASON FOR ATTENDING PARTICULAR COLLEGE

Other studies on junior college populations, that did not make a distinction between the transfer and vocational sub-samples, have found that "inexpensiveness" and "close to home" were listed consistently as the two leading reasons why students choose the junior college in which they were enrolled.[21] The present research on occupational students also found that these two factors were among the most frequently cited. However, the factor identified most often by about one-third of the sample was "special program of courses offered." It appears that physical distance and economic consideration each plays a less significant role in encouraging junior college occupational students to attend a particular college, than each does with reference to junior college students in general. These findings are summarized in Table 13.

TABLE 13

REASON FOR ATTENDING PARTICULAR COLLEGE AS INDICATED BY A NATIONAL SAMPLE OF JUNIOR COLLEGE STUDENTS ENROLLED IN OCCUPATIONAL PROGRAMS

Reason	Number	Percent
Close to home	1,148	22.5
Low cost	914	17.9
Special program or courses offered	1,719	33.7
Friends attending there	54	1.1
Opportunity to work while in school	260	5.1
Reputation of school	186	3.6

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[21] See, for example, Louis A. D'Amico and Marie R. Prahl, "A Follow-Up of The Educational, Vocational and Activity Pursuits of Students Graduated From Flint Junior College, 1953-1956," *Junior College Journal*, 29 (April 1965), pp. 474-477.

Reason	Number	Percent
Family	70	1.4
High School vocational education teacher	22	.4
High school guidance counselor(s)	105	2.1
Other	627	12.3
TOTAL	5,105	100.1

MOST IMPORTANT GOAL IN ATTENDING COLLEGE

What is the most important reason cited by the junior college vocational students for attending college? Data relative to this question are presented in Table 14.

As one would expect from students involved in occupational education, about one-half of the sample viewed college primarily as a means toward obtaining a job. However, another often selected response was "to develop my mind and intellectual activities," having been chosen by more than one-fourth of the sample.

TABLE 14

FACTOR INDICATED AS THE MOST IMPORTANT GOAL IN ATTENDING COLLEGE BY A NATIONAL SAMPLE OF JUNIOR COLLEGE STUDENTS ENROLLED IN OCCUPATIONAL PROGRAMS

Most Important Goal	Number	Percent
To develop my personality	113	2.2
To develop my mind and intellectual activities	1,390	27.3
To secure vocational or professional training to obtain a job	2,587	50.8
To make a desirable marriage	90	1.8
To earn a higher income	535	10.5
To kill time, nothing else to do	16	.3
To become a cultured person	67	1.3

Most Important Goal	Number	Percent
To avoid being drafted	56	1.1
To please my parents	235	4.7
TOTAL	5,089	100.0

MAIN SOURCE OF FINANCIAL SUPPORT

As specified before, a larger proportion of two-year college enrollees come from lower socioeconomic backgrounds than is the case of four-year college students. Consequently, the matter of finances is especially important to the sample of occupational students that participated in the Junior College Survey.

As shown in Table 15, one-third of the sample were self-supporting, and approximately another one-third were being financed by their parents. The large number who cited parental assistance as the major source of financial aid was somewhat surprising. The low percentage of students receiving scholarships and governmental assistance and loans were in accordance to what was expected. In the main, these types of financial assistance are reserved for students beyond the two-year college level.

TABLE 15

MAIN SOURCE OF FINANCIAL SUPPORT WHILE ATTENDING COLLEGE AS INDICATED BY A NATIONAL SAMPLE OF JUNIOR COLLEGE STUDENTS ENROLLED IN OCCUPATIONAL PROGRAMS

Main Source of Financial Support	Number	Percent
Self-supporting	1,686	33.2
Parents	1,946	38.3
Other relatives	142	2.8
Personal savings	284	5.6
Loan	184	3.6
Governmental assistance, other than loans	414	8.2
Scholarship	139	2.7

Main Source of Financial Support	Number	Percent
Employer paying for course	43	.8
Other	238	4.7
TOTAL	5,076	99.9

EVALUATION OF OCCUPATIONAL TRAINING

Responses were elicited with reference to how adequate the occupational students felt their training was in preparing them for a job. Close to 80 percent of the 5,063 respondents who answered this item believed they were either being prepared very adequately (43.2 percent) or fairly adequately (44.4 percent). Very inadequate evaluations were selected by 5.1 percent of the sample; 7.3 percent responded with a "fairly adequate" rating. These findings suggest that the vast majority of vocational-technical students viewed their occupational training quite positively.

EDUCATIONAL ASPIRATIONS AND EXPECTATIONS

The members of the junior college sample were asked: How far would you like to go in school? That is, how much education would you like to get? (aspirations); and, How far do you really think you will go in school? (expectations). The indicated responses were tabulated and reported in Table 16.

As the table reveals, approximately one-half of the two-year vocational students aspired for an educational level of at least a bachelor's degree. On the other hand, slightly more than 12 percent did not wish to finish their junior college program. With reference to expectations, about one-third of the students specified they would realize educational levels of at least a bachelor's degree. About 17 percent of them did not really expect to graduate from junior college.

The findings also reveal that the expectations of the students exceed their aspirations up to the "will get bachelor's degree" level; at that and subsequent levels of education, expectations are less than aspirations.

A conclusion suggested by these data pertains to the finding that a significant proportion of the sample indicated they planned to pursue post-junior college education. Of course, it is not known whether or not the expectations shared by these occupational students will eventually become achievements. It can be

TABLE 16

EDUCATIONAL ASPIRATIONS AND EXPECTATIONS OF A NATIONAL SAMPLE OF JUNIOR COLLEGE STUDENTS ENROLLED IN OCCUPATIONAL PROGRAMS

Aspirations and Expectations	Aspirations		Expectations	
	Number	Percent	Number	Percent
Will not finish the classes I am now taking	43	.9	61	1.2
Will finish the classes I am now taking	379	7.7	416	8.5
Will finish one year of college	241	4.9	348	7.1
Will finish the two-year program of study I am in	1,382	28.0	1,896	38.7
Will finish three years of college	266	5.4	439	9.0
Will get bachelor's degree	1,581	32.1	1,200	24.5
Will do some graduate work	257	5.2	165	3.4
Will get master's degree	375	7.6	157	3.2
Will do graduate work toward Ph.D. (other professional work)	239	4.9	66	1.3
Other	164	3.3	153	3.1
TOTAL	4,927	100.0	4,901	100.0

said, however, that at the time of the survey, a large number of the occupational students subscribed to an orientation that must be upheld if they are to be motivated to upgrade their knowledge to keep pace with the changing requirements of the occupational structure.

It is quite probable, however, as suggested by a comparison between the expectations of this group of junior college students and the present achievements of a similar group of students, that many of these vocational students share a very unrealistic orientation. By examining their expectations, it is found that 2,027, or 41.3 percent of the sample, expect to continue their education beyond the two-year level. As a comparison, only 13.6 percent of the 1967 post-secondary vocational graduates actually continued their education on a full-time basis following graduation.[22] This does not mean that additional 1967 graduates will not eventually reenter higher education as students. Nevertheless, their educational achievements will undoubtedly continue to diverge considerably from the educational expectations of many members of the junior college sample. Consequently, it is not likely that the educational expectations of a significant number of the junior college group will be approximated by their educational achievements.

The question arises as to what factor as perceived by the junior college occupational student is responsible for the deflection that may exist between aspiration and expectation levels. Answers to this question may have some bearing upon explaining attrition from the educational process.

As shown in Table 17, the two factors selected most often as responsible for the disparity between aspirations and expectations were lack of finances and marriage, respectively cited by 11 percent and 12.2 percent of the subjects participating in the Junior College Survey. However, two other factors, "tired of school" and "lack of motivation" seem quite similar, and combined, were mentioned by 12.8 percent of the student subjects.

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[22] Those graduates (25,962) for whom data were not available were not considered in computing the 13.6 percent. For the source used as a basis for arriving at this figure, see: *Vocational & Technical Education, Annual Report, Fiscal Year 1967* (Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, 1969), Table F.

TABLE 17

MOST IMPORTANT FACTOR INDICATED BY A NATIONAL SAMPLE OF JUNIOR COLLEGE STUDENTS EXPLAINING WHY THEIR EDUCATIONAL ASPIRATIONS AND EXPECTATIONS VARIED

Factor Cited	Number	Percent
No difference	1,720	35.9
Lack of finances	584	12.2
Not smart enough	332	6.9
Tired of school	331	6.9
Marriage	527	11.0
Parents (want me to do something else)	29	.6
Grades not high enough	250	5.2
Lack of motivation	281	5.9
Military service	319	6.7
Other	414	8.6
TOTAL	4,787	99.9

RECRUITMENT, RETENTION, AND PLACEMENT

This section examines various facets of recruitment, retention, and placement that have significant implications for prospective and actual students of post-secondary vocational institutions, as well as the broader society. An effort is made to summarize a portion of the literature that is relevant to these areas.

NEED FOR RECRUITMENT

In the introduction of this paper brief mention was made of the increasing societal needs for more highly skilled and knowledgeable workers. At this time, additional attention will be devoted to this matter in order to underscore the great need for a quantitative and qualitative increase in the recruitment of students for post-secondary vocational training.

It has been estimated that during the decade preceeding 1975, four million workers will be needed to fill jobs previously non-existent.[23] It has also been predicted that an elimination of about two million jobs will take place within the next decade.[24] These statements aptly illustrate the major changes occurring in our occupational structure: 1) the addition of many new jobs that require advanced training and skills, and 2) the elimination of many unskilled and semiskilled occupations. Some of the projected occupational needs will now be examined.

The professional and technical occupations as a whole are expected to require about one-half as many persons as presently employed in this category. There will be a need for the number of office machine workers to double, while the clerical and office field will increase by one-third. It is projected that the required number of skilled craftsmen will experience a 25 percent growth. There will be a particular need for increases in the service areas relating to protection, food, and hospital work. In general, the demand for service workers will increase by one-third.[25]

With reference to needs in fairly specific occupational areas, the technician has been selected as a case in point. It is estimated that there should be two technicians for each scientist and engineer.[26] If the United States were to achieve this ratio by 1975, it would need approximately three million more than the projected number of technicians expected to be available.[27]

As a point of interest, ten years ago the U.S.S.R. had a ratio of 1.5 technicians per scientist and engineer which is larger than the contemporary ratio in this country. The Soviets are planning for a ratio of three to four technicians by 1970; a ratio of .71 is being planned in the United States by 1975.[28]

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[23] Stanley H. Ruttenberg, "Manpower Training - The Seeds of a Dilemma," *Manpower*, 1 (January 1969), p. 6.

[24] B. Lamar Johnson, "Change and the Junior College," *School and Society*, 97 (April 1969), p. 249.

[25] Ruttenberg, *op. cit.*, p. 6.

[26] Michael Russo, "Fourteen Million Vocational Students by 1975," *American Education*, 5 (March 1969), p. 10.

[27] Charles R. Bowen, "Educators Plus Employers: A Team to Meet the Critical Need for Technicians," *School Shop*, 28 (March 1969), p. 42.

[28] *Ibid.*, pp. 42-43.

To pursue this topic further, the question arises as to what major factor is responsible for the dire lack of qualified personnel in the technical area. Attention is thus drawn to the operating efficiency of the institutions intended to train technicians.

It is found that practically all technical institutes have student body capacities beyond their actual enrollments. In 1964, two technical institutes with a student capacity of 170,000 had enrollments of only 100,000.

During the next few years, federal and state expenditures are projected toward a student capacity of 750,000; enrollments are expected to increase to 266,000. It appears that the gap between capacity and enrollment is widening, rather than narrowing.[29] The statistics cited above are in complete support of this quote: "Perhaps the most serious problem facing technical education is recruiting qualified students in sufficient numbers to meet the demands of industry and to utilize expensive facilities at an appropriate level."[30] This leads to a brief consideration of present recruitment procedures.

RECRUITMENT METHODS

Attracting qualified students for post-secondary vocational training is often not an easy task. However, some areas in a few states report little or no difficulty with recruitment.[31] What are some of the recruiting methods currently employed in an effort to bridge the gap between occupational enrollment and anticipated labor market needs?

The recruitment techniques used by post-high vocational institutions generally vary from one school to another. The following techniques have been used by many junior colleges:

1. Telling the "community" (e.g., service clubs, PTA's, church groups, youth groups, union meetings, employee associations) about occupational education through use of color slide presentations and taped commentaries.

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[29] *Ibid.*, p. 43.

[30] Clyde E. Blocker, "Student Personnel Services For Occupational Education," in *Emphasis: Occupational Education*, (Washington, D. C.: American Association of Junior Colleges, 1966), p. 72.

[31] Norman C. Harris, *Technical Education in the Junior College: New Programs for New Jobs*, (Washington, D. C.: American Association of Junior Colleges, 1964), p. 81.

2. Presenting news stories and television programs about technicians, secretaries, health service workers, etc., in which relevant information (e.g., working conditions, salaries, and job opportunities) is disseminated about the work in these fields.

3. Attempting to enhance the status of occupational education programs by emphasizing its requirements, the quality of the program, the high school preparation required for entrance, and the status of the associate degree.

4. Promoting interest in occupational education among high school counselors and teachers by such means as inviting them to the college campus for symposiums and workshops, visiting their campuses, providing them with information relative to occupational education, etc.

5. Sponsoring a "career day" for potential students.

6. Using the mail for educational advertising.[32]

Recruitment activities based on joint cooperation between industry and education are frequently conducted. Some of these activities include: 1) having industrial personnel speak about career opportunities before various groups; 2) offering special scholarships, financial aid to needy students, and sponsoring awards for outstanding secondary school vocational-technical graduates; 3) sponsoring Business-Education Day programs; 4) promoting public relations activities by exhibiting student work in stores and civic buildings; and 5) staging plant tours for students.

Some post-secondary vocational schools conduct continuous recruitment programs. For instance, the area vocational-technical schools in Georgia have established a recruitment committee composed of the directors of the schools, directors of student personnel services, high school counselors, and other representatives from education, as well as labor and industry. This committee is attempting to develop a calendar of activities for informing prospective students and the public of the vocational programs available, to develop material for use in presenting the program to the public, and to develop ways in which the State Department can assist local schools in developing this material.[33]

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[32] *Ibid.*, pp. 82-83.

[33] James E. Bottoms and Emeliza Swain, "The Effects of Program Development on Area Vocational-Technical School Enrollment, *Vocational Guidance Quarterly*, 15 (June 1967), pp. 267-272.

In general, it must be concluded that most post-secondary occupational recruitment programs represent efforts that are non-continuous, relatively unsystematic, and uncoordinated. In most cases, emergency crash-programs of recruitment are utilized resulting from immediate industrial or educational needs.[34]

PROGRAM RETENTION

The area of retention is interrelated with recruitment. The recruitment program becomes inconsequential if an institution's retention rate is low. Examination of pertinent literature suggests, however, that the attrition rates of most post-secondary vocational institutions are high. In fact, dropouts from post-high vocational-technical programs constitute a critical problem.

Based on data for 1956-1958, Henninger reported the medium and mean percentage dropout rates of students from technical institutes were 50 and 52, respectively. The retention rates varied greatly from one institute to another. Twenty-nine institutes reported student completions of from five to 40 percent, 50 from 50 to 75 percent, and 12, from 80 to 100 percent. Henninger indicated, however, that the dropout rates were greatly influenced by students quitting school to accept jobs before completing all the requirements of their program.[35] Metz found an attrition rate of 40 percent to exist among enrollees in technical education programs.[36] Van Derslice wrote that a dropout rate of about 50 percent was characteristic of technical education programs in the United States.[37] Since the above studies report dropout rates over a 10 year period, it appears the retention rates in technical education have been relatively constant.

Various explanations have been made for the high dropout rates on the post-secondary level. They share a common theme that is centered in the area of recruitment.

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[34] Samuel M. Burt, *Industry and Vocational-Technical Education*, (New York: McGraw-Hill, 1967), p. 211.

[35] G. Ross Henninger, *The Technical Institute in America*, (New York: McGraw-Hill, 1959), p. 58.

[36] D. C. Metz, "Sixth Survey of Engineering Technicians Enrollments and Graduates," *Journal of Engineering Education*, 52 (April 1961), pp. 113-115.

[37] John F. Van Derslice, "Technical Students' Characteristics," *Industrial Arts and Vocational Education*, 57 (February 1968), p. 81.

Van Derslice indicated three primary reasons for the existence of low retention rates: 1) poor selection of entering students; 2) inappropriate institution and course level; and 3) limited counseling prior to and during the educational period.[38]

Gillie has also written concerning the appropriateness of the course level in most technical institutes.[39] He made the point that many two-year institutions are having problems attracting students because of unreasonably difficult and irrelevant requirements. According to Gillie: "They are, in many cases, demanding a student of academic level who rightfully belongs in a baccalaureate program."[40] He further argues that the realization should be made that technical occupations are middle-level jobs. Consequently, a student with middle-level intelligence should find it possible to enter and successfully complete a technical program. Gillie's comments suggest the relevancy for post-secondary schools to make a thorough study and analysis of the criteria employed in selecting students for particular occupational programs.

PLACEMENT

A successful placement program is important not only for a smooth transition of students from school to work, but also for the recruitment of new students. Successfully placed graduates can have a significant impact upon the recruitment of future students.

Statistics for 1967 attest to the success experienced by graduates of post-secondary vocational schools in achieving jobs following the completion of their programs. These tabulations are presented in Table 18.

In 1967, 87.8 percent (78,956) of the post-secondary vocational-technical graduates available for placement obtained employment in the field in which they were trained, or in a related field. A total of 4,987 (5.6 percent) were working in an unrelated field. Part-time employment was characteristic of 3.8 percent of the former vocational students; only 2.8 percent were reported as being unemployed. This compares quite favorably with

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[38] *Ibid.*

[39] Angelo C. Gillie, "Recruiting Students for Technical Programs," in *Technical Education Yearbook, 1967-68*, (Ann Arbor: Prakken Publications, Inc., 1967), p. 187.

[40] *Ibid.*

TABLE 18

STATUS OF PERSONS WHO COMPLETED POST-SECONDARY VOCATIONAL PROGRAMS AND WERE AVAILABLE FOR PLACEMENT, 1967*

Occupational Areas	Number Completing Program	Not Available for Placement	Available for Placement					Data Not Available
			Employed in Field Trained/ Related	Employed in Unrelated Field	Employed Part-time	Unemployed	TOTAL	
Agriculture	6,334	1,196	4,064 90.4	289 6.4	96 2.1	46 1.1	4,495 100	643
Distributive	7,111	1,739	2,474 73.5	325 9.6	417 12.4	152 4.5	3,368 100	2,004
Health	27,882	1,641	22,216 95.2	330 1.4	540 2.3	251 1.1	23,337 100	2,904
Home Economics Gainful	3,148	541	1,826 83.2	91 4.1	177 8.1	100 4.6	2,194 100	413
Office	39,614	8,501	17,379 81.7	1,573 7.4	956 4.5	1,359 6.4	21,267 100	9,846
Technical	21,111	4,872	11,541 92.4	484 3.9	260 2.1	205 1.6	12,490 100	3,749
Trade and Industry	35,817	6,676	19,456 85.6	1,895 8.3	951 4.2	436 1.9	22,738 100	6,403
TOTALS	141,017	25,166	78,956	4,987	3,397	2,549	89,889	25,962
PERCENTS			87.8	5.6	3.8	2.8	100	

*_Vocational & Technical Education, Annual Report, Fiscal Year 1967_ (Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, 1969), Table F.

the national unemployment rate of 3.8 percent.[41] This is particularly the case if it is considered that most of the population composing the post-secondary vocational graduate group are relatively young and the unemployment rate of young adults is considerably higher than that of the overall adult population.

Table 18 also presents data, controlling for the occupational area, in which the graduate majored. Unemployment rates of less than two percent are characteristic of the post-high occupational graduates in four occupational areas. Graduates in the areas of office, home economics, and distributive education experienced slightly higher unemployment rates, extending from 4.5 to 6.4.

It is not known how many of the post-secondary vocational-technical graduates were unemployed in the "data unavailable" group. However, the conclusion that appears warranted from Table 18 is that the post-secondary occupational graduates were quite successful in realizing placements commensurate with their training.

A CLEARINGHOUSE FOR THE RECRUITMENT AND PLACEMENT OF POST-SECONDARY VOCATIONAL-TECHNICAL STUDENTS: A RECOMMENDATION

The problems associated with the recruitment, retention, placement and follow-up of post-high vocational students are extremely complex and vary considerably as to nature, intensity, and source. It is impossible for a single recommendation to have the potential to alleviate even a significant minority of these problems. The following recommendation, however, is quite encompassing. It is viewed as a more effective means whereby high school students are encouraged to pursue post-high school vocational programs, congruent with their interests and abilities, and in the process acquire skills and knowledge consistent with the requirements of the labor market. Only a brief and skeletal version of the recommendation will be presented as it exists presently in an embryonic stage.

Some of the recruiting techniques currently used by post-secondary institutions have been discussed above. Notwithstanding the danger of over-generalization and simplification, most of these techniques can be subsumed under what may be termed the "mass communication" approach. If some of the major impediments to the vocational student recruitment process (e.g., middle-class bias of counselors, parental pressure for children to enroll in baccalaureate programs, student awareness that vocational programs and subsequent related jobs are accorded limited prestige) are recognized, it seems apparent that "mass communication," *per se*, cannot be effective as a recruitment means.

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[41] *Manpower Report of the President*, including *A Report on Manpower Requirements, Resources, Utilization, and Training* (Washington, D. C.: U. S. Department of Labor, U. S. Government Printing Office, April, 1968), p. 184.

It is suggested that new, unique, and multi-functional structures (organizations) are requisites before significant steps can be taken to lessen some of the problems besetting the selective growth of post-secondary vocational school enrollments and more successful occupational placements. Central to the proposed organization is the concept of the interstitial group.[42] This concept refers to a group whose function is to join other groups together in order to more effectively realize goals that are of mutual interest. Members of the interstitial group are drawn from other groups and represent these groups in the interstitial or inbetween relational system. The rationale for joining other groups together is to make an exchange of products, services, or functions possible, to provide a means of coordinating or synchronizing their activities, or to control the potential conflict or competition between them. How can the interstitial group concept be operationalized in the form of organizations concerned with the recruitment-placement processes as they involve prospective occupational students and graduates of post-high vocational-technical programs? The subsequent paragraphs represent a rudimentary attempt at answering this question.

In the main, it is suggested that structurally separate organizations be established, staffed primarily with personnel representing other groups or organizations, that individually and collectively, directly or indirectly, stand to benefit from an amelioration of the problems negatively impinging upon the recruitment-placement of post-high school occupational students. The persons composing a particular interstitial organization will tend to represent the high schools, the post-secondary vocational-technical institutions, business-industrial organizations, and perhaps other interested groups in a particular employment-market area.[43] Each category of personnel employed for the proposed organization will work in conjunction with counterparts located at each of the organizational settings previously identified.

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[42] Frederick L. Bates, *The Structure of Occupations: A Role Theory Approach* (Raleigh: North Carolina State University, Center for Occupational Education, 1968), p. 169.

[43] The importance of establishing an organization so that its service area extends beyond a particular community area is substantiated by findings of the Junior College Survey. When asked whether or not they intended to remain in their present community, 1,772 (34.5 percent) of the occupational students indicated "yes," 1,425 (28.7 percent) said "no," and 1,886 (36.8 percent) were "not sure."

The term "clearinghouse" has been used in the name of the proposed structure(s). This designation is apropos because, in essence, the suggested organization is a central agency for collection, classification, and distribution of information, as well as people. The performance of these functions will be facilitated through the use of computer technology.

The collection function of a clearinghouse would include the systematic, organized, and periodic gathering of data with reference to the following: 1) personal record data from the high schools about their enrollees that may be useful for guidance and counseling purposes; 2) present and anticipated occupational needs and requirements from industrial-business organizations; 3) admissions and graduation requirements, program descriptions, etc., of post-secondary vocational schools; and 4) information relative to the placement and follow-up of post-secondary school graduates.

The classificatory functional area would involve the performance of at least two major related roles. Clearinghouse personnel would screen student records for the purpose of determining who have the potential to benefit from vocational training on the post-secondary level. Those prospective students identified would be contacted; interested students and parents would participate in counseling sessions with a clearinghouse counselor. Subsequently, the high school student would be classified as to the vocational program that appears congruous with his values, interests and abilities, as well as anticipated labor market needs.

The functions pertaining to distribution include both the dissemination of information and the distribution of people. Information dissemination relates to the following: 1) providing information to the high schools concerning post-secondary schools and programs and the available jobs contingent upon having received post-secondary occupational training; 2) relaying data to curriculum personnel on the post-secondary level about the emergence of new jobs and the upgrading of skills that are essential if the curriculum is to be correlated with available employment opportunities; 3) keeping the industrial-business organizations posted as to the number of persons being trained and their area of skill competency; and 4) informing admissions offices about prospective vocational students if they have not already enrolled.

Clearinghouse roles pertaining to the distribution of people include: 1) referring high school students to specific post-high schools offering programs compatible with their interests, values, and abilities; and 2) providing counseling to graduates of post-secondary programs and referring them to organizations in need of their skills.

Most of the functions to be carried out by the "clearinghouse" are presently being performed, in one degree or another, in many areas of the country. However, the activities are generally unstructured, uncoordinated and unsystematized. Problems of effort articulation and cooperation are rampant. Frequently, essential information necessary for effective recruitment and placement is not available. The proposed centralization of recruitment-placement functions, based on an integrated and exhaustive system of communication, both into and outside the system, should lessen some of these problems.

It is likely that the costs presently incurred by a variety of organizations and agencies, haphazardly involved in the recruitment-placement processes, is greater than what would be required to staff the proposed clearinghouse. It is more likely that the benefits would greatly exceed the costs.

If the clearinghouse concept is developed, implemented and institutionalized, the benefits enumerated below are likely to accrue.

1. The proposed clearinghouse would result in the emergence of a communication network that provides significant data relating to recruitment and placement; decision-making on all levels would have a more rationale basis.

2. The establishment of a clearinghouse in a particular employment-market area would lend greater legitimization to the post-high vocational education process. In due time, more prestige is likely to be accorded to this type of education.

3. Exposure to the existence of a clearinghouse would induce students to begin recognizing that there are other alternatives following high school besides "going to work" or "going to the university."

4. Implicit in the "clearinghouse" concept is the idea that students have different kinds of abilities rather than a gradation of ability. The utilization of recruitment procedures that reflect this orientation will foster its development and dissemination.

5. Effort at selectively recruiting students for post-secondary occupational training will secure a greater number of enrollees for these programs. Furthermore, if the criteria for selection are realistic, the retention rates will likely increase.

6. Vocational educational institutions beyond the high school will be in a position to be more responsive to

> the needs of a changing society. The course content of vocational programs will be more compatible with the requirements of business and industry; there will be more employable people for available jobs.

To my knowledge, the "clearinghouse concept" as used in this paper represents a radical departure from the past. As a consequence, it threatens vested interests and cherished philosophical positions. If this recommendation has any merit, we cannot permit any sensitivity to criticism and predilection for the past to interfere with the development and implementation of the "clearinghouse concept," at least, in one employment market area, and on a pilot-stage basis. Too many individuals need the benefits that will result from an enhancement of the recruitment-placement processes. For as Gleazner has written, the transfer and baccalaureate programs are going to meet the needs of only about one-third of the students who go on from high schools; we need to find ways of meeting the needs of the other two-thirds.[44]

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[44] Edmund J. Gleazner, "Junior Colleges are Growing Up," *College and University Business*, 40 (June 1966).

THE PEOPLE TO BE SERVED BY POST-HIGH SCHOOL VOCATIONAL AND TECHNICAL EDUCATION

HOW SHOULD WE BE SERVING THEM?

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It has been said that for every two jobs which become obsolete through advancements in technology, three new jobs are created. It has been said, also, that man's total knowledge doubles about every five years.

These two related phenomena indicate we are creating needs for the application of many skills at a rate which is taxing to a high degree our abilities to find and train people capable of applying the skills to meet these needs. The medical services area, alone, is quite indicative of this burgeoning problem. Technician specialists, unheard of a decade ago, perform services considered vital to the function of sophisticated medical systems. Cardio-pulmonary technicians, radiologic technicians, associate degree registered nurses, and central service supply specialists are only a few of the skill areas coming in focus in the medical areas in rather recent times.

People must be trained faster and better to meet these demands. Our technical advancement will fall on hard times, indeed, if we cannot produce capable support personnel to shore up the efforts of the professional practitioner. Many traditional educational processes do not enhance our efforts along these lines.

When we talk about educating people in post-high school vocational and technical education, an examination of the philosophies and mechanics of our system of education from the standpoint of our ability to produce results, would seem to be an appropriate place to begin. It is the writer's observation, after two and one-half decades in the education business, that much of the hue and cry about educational problems stems from systems of education which are often inaffective and archaic. If we really want to do a good job of educating people in the skills area, let's look at our system, point out some of its major flaws, and consider some possible changes for improvement.

As a starter, let's look at the basic philosophy behind vocational and technical education. It is my contention that the primary, basic objective of each vocational-technical program is to produce a product which can successfully apply the skills he has learned. Too often, however, our product is sent forth with a bare minimum of applicable skills and an over-exposure to materials which are presumed to help him lead a better life, but which often have little observable effect. Programs which do the job the student expects, and which the employer expects, need to become more common.

Related to all this is a myth that "quality" programs culminate in a degree, and the higher the degree the better the program. Following the same line of thought, the more a program can be made to resemble its academic cousins the better, since academic studies are considered to be the most respectable. This point of view is open to some question. Curricular design based on obscure or unsound objectives tends to reduce program production to a high degree. The stamp of quality can apply, whether a program is of two hours duration or two years duration. A quality program has a high product output and high employment rate, coupled with successful job performance.

We have a tendency, because quality is so often considered synonymous with sophistication and the length of a program, to dilute skill programs by adding extraneous courses which "someone thinks everybody ought to have," but which make very little observable contribution to the effectiveness with which the product applies his skills. Every person needs to broaden his vistas beyond his immediate job training to the limit of his interests and capabilities. However, this broadening effect should not be attempted at the expense of necessary skills. To be an integral part of a skills curriculum, support courses should be highly relative to the specific skill-objectives to be attained. Then, too, time is often a factor very much related to a student's economic needs and the longer he is kept in a program, the longer it is before he can begin earning. The Salvation Army has an approach which makes sense, for they practice nourishment of the stomach and then nourishment of the soul. Once a student is working and earning successfully, he can be interested far more easily in a broader education. Usually, no one eats an entire balanced meal in one course ("C" rations excepted), so why should a program attempt to provide a total educational exposure for a student unless this is a specific program objective? It is as though we believe that this is the end of his formal education, and we will never have an opportunity to work with him again. A program should be flexible and attractive so that a student will find it profitable and stimulating to return for courses to satisfy the needs he may feel for a broader education as well as for more specialized education.

There are those who say that no person should be specifically "skill educated" since the skills a person may need for today's job may be obsolete tomorrow because the job and the skill requirements have changed. They say education should be general, so that with minimum psychological and technical adjustment a person is always ready to produce to meet job demands. In theory this may be good, but in practice many generalists have found themselves unemployable because they did not possess skills applicable to current, specific job requirements. Management and personnel directors often emphasize the value of general knowledge, and there is no doubt it is valuable, but the people who do the employing (departmental supervisors, for example) often take a different and more pragmatic point of view. They require technically skilled people who can do the job that is needed now, and produce significantly for the company beginning with the first day of employment. This fact makes the acquisition of specific skills in any vocational or technical program a very high priority item.

To return to the term "quality" for a moment, this term has been construed often in recent years in both academic and technical education to relate to the dropout and failure rate in a program. Once a teacher related to me with pride that he had finally been able to raise his standards to the point where over 50 percent of the students in his classes failed. I inquired whether this was the course objective and, if so, how could he justify such poor production in terms of his salary, if his job was to educate students? Inept counseling and placement and inferior teaching are too often basic reasons for low production. High production of successful graduates relates directly to good counseling and placement and high quality instruction. Few manufacturing concerns could come to their stockholders with the claim of a quality production process when half of the finished products are rejected. Why is the production of a human product any different?

Educational systems, unlike a material production system, are subject to certain societal pressures which relate quality to academic sophistication. By and large, teachers, counselors, and administrators are products of an academic system which equates quality with sophistication, academic standards, and liberal arts. People, being what they are, it is not surprising that the "system" with its traditional definition takes precedence over the needs of students many times. If we are really interested in serving people effectively, this approach must be altered.

Now, who are we traditionally serving in our vocational and technical programs? Perhaps at one time, it was primarily those who were not acceptable to the senior college, intellectually or economically. However, due to impetus of prestige programs, including data systems, electronics, middle management, and allied health careers, many young people choose these areas of training rather than the traditional academic programs. Not only can they graduate sooner, but lucrative salaries provide an additional attractive luster. Persons seeking upgrading in their job status enter new programs leading to complete career changes. A full-time executive secretary in a large community college district took training as a part-time student over a period of two years at night, and then was hired by the same organization as a programmer trainee in the Computer Center. The current salary she is earning as a trainee is comparable to her former salary as an executive secretary, but opportunity for upward mobility to a higher salary in the computer services and data systems area is better, thus providing the motivation for the change.

There are certain large groups of people who are being only partially served by public post-high school institutions. Most educational systems are designed for people who are able to meet specific, arbitrary standards. There is nothing wrong with reasonable standards; and before we can "market" a quality product, it must be able to do what we say it can do. But why not lengthen, or broaden, or otherwise tailor our programs to encourage talent who may not qualify on entry but who can ultimately qualify if the proper entry vestibule is provided. The salvage of undeveloped talent must receive emphasis by established institutions as well as by special agencies. Persons whose basic communicative and computative skills prevent entrance into traditional programs, and persons who are dropouts from traditional programs, are representative cases. Students are not motivated to the same degree by the same kinds of stimulation. The old cliche "if you want to succeed, you can" does not always work, especially where individuals have psychological as well as skill hang ups. Attention must be given to the ways in which an individual's self perception can be changed or improved to a point where he believes he can be successful. Recognition by post-secondary schools of previous experience or training acquired by a student, which can accelerate his progress, both in time and expertise, needs to be more broadly applied. For instance, why shouldn't a medical corpsman be granted advanced standing in a two-year nursing program on the basis of successful performance as a trained practitioner in the field? Traditionally, we usually require him to go back to "start" and come through the same program in its entirety, as is required of the neophyte high school graduate.

Let us return a moment to the person with low basic skills. Too few schools give more than superficial consideration to the individual with this problem, saying that this is "someone else's job." Many secondary and post-secondary schools give remedial courses in basic skills. Unfortunately, because of the stigma attached to such efforts, both teaching and learning often do not occur at a productive level. While enrollments may be high in the beginning the real test of the program, production of successful graduates, if often astoundingly low.

Efforts are sporadic, also, among established institutions to offer viable programs geared especially for retired persons. Tremendous talent possessed among senior citizens could lend much to society if they were afforded varied opportunities to retrain and apply skills, the talent for which many never realized they possess. During the past 30 years the number of active retired people has increased nearly 50 percent. This reservoir of talent needs utilization.

More attention should be given to persons with language barriers. Often the skill level in the native tongue or English dialect is quite high but this person needs special opportunity to convert his verbal skill to English, or improve his dialect, to a point where it can be easily applied. Many native Americans of varied ethnic background can't communicate well beyond their neighborhood cultural group. Post-secondary schools should capitalize on this source of talent with special programs to develop good English communication as a "second language."

Homemakers who can't spend the time to be full-time students but who may need to work, often are employed below their competency level because too few schools provide viable programs geared to part-time students. Many schools, because of an abundance of full-time student applicants, do not encourage part-time students.

These factors emphasize the fact that change must occur in post-secondary programs of vocational and technical education in order for these programs to remain in the hands of established public institutions. A host of innovative programs born of necessity to meet educational needs--some attached to existing schools and many not attached to any part of any ongoing system--have come into being. Many of these programs are operated by or for the Federal Government which recognizes needs in educating people which are not being met by established schools. A total federal take-over of vocational-technical education is not beyond the realm of possibility if established institutions do not make some additional philosophical and organizational changes.

Suppose we start with the most difficult matter first--that of a change of philosophy. The philosophy of education of our contemporary society, which often applauds efforts of the mind and overlooks efforts of the hands, needs refurbishing. Schools reflect societal thinking which gives lip service and tacit support to skill application at ordinary levels. John Gardner's comments regarding "Philosophers and Plumbers" relates this societal prejudice, beautifully. To paraphrase Dr. Gardner's story, it seems that once there was a town which operated two

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educational programs, one in philosophy and one in plumbing. As the programs matured, the townspeople gradually began to give the majority of their support and praise to the philosophy program and little support and praise to the plumbing program. This occurred despite the fact that the philosophy program was very mediocre and the plumbing program was outstanding. Philosophy, of course, was considered sophisticated, and therefore to be lauded, while plumbing was mundane and not really worthy of continuing support. Gardner concludes by saying that this town was to be pitied, since before long neither its theories or its pipes held water.

Probably the most significant factor producing some change in this point of view is the influence of sophisticated programs of two-year and shorter duration, such as computer science and data system, allied health careers, and electronics upon the vocational and technical scene. Need for persons to work in these areas, good pay, and a good status image have generally enhanced public perception of these programs, but we still have a long way to go.

More easily dealt with, difficult as they can be, are changes in the organization of our post-secondary administrative systems, changes in accreditation procedures and qualifying requirements for teachers, and changes in the methods of instruction. Post-high school institutions operating in the vocational-technical area are organized and controlled by line and staff plans which usually guarantee "empire building" and noncommunication. The very nature of the system tends to control and limit the communication of ideas. On an even broader scale, vocational and academic high schools operate in separate worlds, philosophically, if not physically. Area vocational schools, technical institutes, and community colleges--all vie for very much the same student population. It would seem if we are truly concerned with educating people, all these institutions--secondary and post-secondary--should be highly coordinated and the latter perhaps operated as comprehensive two-year colleges where the opportunity for student selection of programs over a broad spectrum is unparalleled, and where innovative organizational and instructional systems flourish.

Traditional subject centered departmental and divisional organizations need to give way to student-centered or functional divisioning where every sub-organization is more concerned with students and their education than in self-serving identification with a skill or subject area.

One of the greatest impediments to progress in the vocational-technical education field is the archaic system of accreditation. Because accreditation is vital to the viability of many programs, both schools and programs are often designed so they can be "accredited" rather than designed in terms of how efficiently and effectively they can serve students. Cumbersome internship, externship, or apprentice-type requirements are prolonged often, it would seem, just to keep a supply of inexpensive labor at hand in a community. Regional accrediting bodies often shy away from responsibilities of accreditation in the occupational areas at the post-secondary level. In reality they should carry a heavy responsibility for accrediting a total institutional effort. Specialized accrediting agencies, with genuine concerns for quality, often perpetuate the low output from the programs, justifying this practice as a means of quality control. The insistence by regional or specialized accrediting agencies that the teacher have an academic degree often compounds the problem. It would seem more appropriate to be concerned with his demonstrated qualifications as a teacher and successful practitioner in the subject area, than with the degree.

Methods of instruction have improved in recent years, not as means of supplanting the teacher, but rather as means of enhancing his efforts. While a very low student-teacher ratio may seem to be a hallmark of quality instruction, it becomes quite indefensible in terms of "production cost." This is especially true when proven systems are available which allow even lower student-teacher ratios, recognition of individual learning rates, and which free the teacher from rote lecturing to become an effective tutor to each class member.

The idea of even a small group of men clustered about an engine, peering over one another's shoulder, to see an installation technique is questionable in terms of efficient instruction. The use of individual slides or film strips covering the same procedure can be much more individually satisfying and effective. When the time comes for "hands-on" performance, the student knows what he's doing because he has seen it closely and clearly as many times as he needs to understand it.

Totally automated instruction, without the presence or personality influence of a teacher, however, leaves quite a bit to be desired. It is doubtful that we will ever adequately motivate and serve people educationally at a really effective level out of "black boxes" alone.

Discussing ways to improve programs has a hollow ring unless such discussion is followed by a plan for activating these ideas. Changing societies' traditional image of the occupational or career area is more a matter of evolution than revolution. The change occurs in human minds as they perceive honorable and financially lucrative careers resulting from education and training along nonacademic lines. Academic rigor and sophistication tend to make occupational career programs more acceptable in people's minds, but only because this relates them to an academic system which somehow is generally assumed to be rigorous, "high level," and sophisticated. Infusing vocational and technical programs with academic subjects may seem to make the program more acceptable, because it is taken for granted that these subjects are inherently worthwhile. In actuality, such practice may dilute and weaken a skill program because of the resulting time limitation for necessary skills development. We cannot ordinarily extend the program in time to do both jobs. Designing support-skills courses in mathematics and communications which relate directly to the objectives of the program will do much to make the program more significant. Designing general education courses with the same purpose also is commendable. However, unless these courses are taught by persons attuned to the needs of applied-skills education, such courses become merely diluted academic classes at the best, and insurmountable obstacles to graduation at the worst.

Good counseling and advising programs in secondary and post-secondary institutions can do much in selling vocational and technical programs to people. Diligent effort to assess accurately a student's abilities, interests and financial needs, and assistance in helping him fit all this into his value structure can be most significant. A counseling program should exist as a service function, and never as an end in itself.

The judicious use of media, not as a substitute for teaching, but as an augmentation of teaching can help us serve students more effectively. Instructional systems, such as the audio-tutorial technique offer real promise in innovative instruction. This particular technique appears to offer excellent promise and needs to be experimented with on a much broader scale of application.

Better teacher training aimed at the post-secondary level where a student-centered philosophy is developed rather than a philosophy of primary allegiance to a body of subject matter can do much to increase program production. Improved curriculum design, and in particular the way related programs are coordinated, is especially critical if we are to serve people in a significant manner. The clustering of related programs into a configuration where certain common subject and skill elements can be taught to students has much promise. Not only are subjects and skills related, but students have an opportunity to change areas of primary skill emphasis at various points without loss of time. This capacity to allow a lateral movement of students among related programs greatly enhances the effectiveness of the guidance and counseling effort.

Related to lateral mobility among programs is a needed vertical mobility within a skill area whereby completion of one program and entry into a job does not exclude a student from applying his skills and experience to a more sophisticated program later on if he so chooses. "Dead ending" students makes little sense and dims the attractiveness of a vocational or technical area greatly. Why not, beginning in secondary school, coordinate skill programs so that at various points a student may enter a job, perform successfully, and then return for more training leading to a more sophisticated skill application and a better job? The critical point is to set up this system so that all work in each program can apply to the skills ladder. In this way the student is not penalized through having to go back and pick up preliminary, qualifying work. Not every student is interested in or capable of this upward mobility, but many are capable and interested and should have the opportunity. This system is viable from high school to the baccalaureate degree, particularly in the medical services area, data systems area, and business management area. At no time, however, should the more sophisticated program dictate the curriculum for the less sophisticated to a degree where the ability of the student to move into employment at specified points is compromised.

Assisting persons whose basic skills are below an acceptable level of competency needs to receive major emphasis. Traditional remedial-type programs, as referred to earlier, have such low production rates many times as to be ineffectual. A special approach based upon helping the student achieve a positive self perception is most important. Relating this program to a skills area of interest to the student gives a hands-on experience which, while perhaps not too productive in technical skills development at this point, motivates the individual to want to stay with a program until he succeeds. Making these programs available to part-time students, since many of these people must work full-time to go to school, is important. Most effectively, such programs are self-contained, meaning that all teaching is handled within a specialized division for this purpose. Counseling as well as instruction is handled within this division. The emphasis is on improved self perception and skill development, and not on subject matter content. In effect, it is a clinical-type approach with each individual program designed to meet the needs of a specific person. No student is handed from division to division within the school for different segments of his program. Fragmentation of a program tends to fragment the individual who does not possess the ability to "assemble the pieces." Most of the education this person has received during his previous schooling has been fragmented, and this factor alone may have produced much of his frustration.

Traditional philosophies, systems, and instructional techniques must be refurbished and updated, just as skills must be updated. Undeveloped human talent is a waste our society cannot afford.

Perception of our manpower needs, recognition of wide varieties and levels of human talent, and designing better systems to educate this manpower are important, individually. Innovative fusion of all three of these can make our systems of educational service to people very significant.

DISCUSSION GROUP SUMMARY

NOVEMBER 5, WEDNESDAY:

I. CLEARINGHOUSE CONCEPT:

The problems associated with the recruitment, retention, placement, and follow-up of post-high vocational students are extremely complex and vary considerably as to nature, intensity, and source. For this reason, it is suggested that new, unique, and multi-functional structures (organizations) are requisites before significant steps can be taken to lessen some of the problems besetting the selective growth of post-secondary vocational school enrollments and more successful occupational placements.

The term "clearinghouse" has been suggested as a name for a new type of structure(s). This designation is appropriate because, in essence, the suggested organization is a central agency for collection, classification, and distribution of information, as well as people. The performance of these functions will be facilitated through the use of computer technology.

The collection function of a clearinghouse would include the systematic, organized, and periodic gathering of data with reference to the following: 1) personal record data from the high schools concerning their enrollees that may be useful for guidance and counseling purposes; 2) present and anticipated occupational needs and requirements from industrial-business organizations; 3) admission and graduation requirements, program descriptions, etc., of post-secondary vocational schools; and 4) information relative to the placement and follow-up of post-secondary school graduates.

The clearinghouse concept is a step in the direction of several agencies pooling resources. Industry could support this concept with personnel and money. Advisory committees could also operate as a clearinghouse input serving both placement and recruitment functions. The clearinghouse could further serve, through its data-gathering ability, to match men to jobs.

In opposition to the clearinghouse concept, however, is the concern that this structure might turn out to be a slightly different form of the traditional employment agency. It is felt that the concept may not meet the real problem, which is deeper than just feeding the student and the system information. Private schools send counselors into high schools to recruit students by pointing out to them the advantages of further study. Perhaps this method might be a better approach than the proposal for a clearinghouse.

Numerous questions about the clearinghouse concept were raised. These were as follows:

1. Who should screen the information stored in the clearinghouse?

2. Will this be primarily a guidance service?

3. Will it involve the different employment services?

4. How do we involve those individuals who have no scholastic or employment records, such as school dropouts?

5. Should the clearinghouse be located within an institutional setting or located at an employment-market area which could take advantage of local migratory patterns (rural to urban)?

6. Are there existing organizations that could perform the same proposed functions as the "clearinghouse?"

7. What resources are required to operationalize the clearinghouse concept?

II. RESTRUCTURING RECOMMENDATIONS FOR THE POST-SECONDARY VOCATIONAL-TECHNICAL EDUCATION PROGRAM:

Generally it was felt that more time should be spent on action and programs rather than on philosophy. More concrete recommendations were that, in developing new programs, vocational education cannot remain within state boundaries in determining educational needs; remedial programs for students' deficiencies should be established; and occupational training should be a continuing process through various educational levels.

Vocational-technical education programs should be accessible and acceptable to the student and the employer. In order to accomplish this, industry should be actively involved in the training programs in such areas as course content, recruitment, and evaluation (on a continual basis). Therefore, there is a need for a more flexible position concerning the evaluation of students in the occupational programs. Statistics should be compiled concerning the students who leave such programs before completion.

It was recommended that the role of vocational education in the secondary school be reexamined, then defined so that it includes preparation for post-secondary vocational-technical education. Such definitions of terminology, principles, and the role of vocational-technical education should lead to a closing of the gap between high school vocational education and post-high school vocational education.

Recommendations to enhance recruitment into vocational programs centered around the need for a change in the image of vocational-technical education. It was felt that classes should be taken outside the physical school plant to avoid the "school stigma." Also, an open-ended curriculum, with no time limits for completion of courses, should be established, along with an open-door admissions policy. New methods must be developed to present the various programs to the students. Development of the new image could begin in the lower elementary grades along with orientation to the world of work.

III. RECRUITMENT

In a survey in San Antonio, Texas, it was found that parents are most influential in recruiting vocational-technical students. However, there are other agencies that should be considered in the recruitment of students. Industry and the news media should be actively involved in recruitment. It is yet undecided as to the effectiveness of mass communication as a means of recruitment. What is recommended, however, is greater information dissemination, which would involve: 1) the use of a national recruitment campaign; 2) providing specific information from local institutions to supplement the campaign; 3) providing special materials to teachers in elementary schools; 4) providing information about career training to the parents of potential students through the use of all possible media and agencies.

Curriculum restructuring could provide new opportunities to promote recruitment into vocational programs. For example, use of the cluster concept in curriculum design might provide ways of enhancing career guidance in the lower grades in hope of stimulating a student's later interest in vocational-technical programs. Vocational education teachers should be more involved in recruitment; they should solicit the assistance of local leaders in business and industry. Likewise, former students could aid in recruiting. Another method of recruiting effectively used by private schools is the sending of counselors into high schools to recruit students.

Suggested incentives for recruiting students into vocational programs are: 1) use of proficiency examinations to validate prior experience; 2) open-ended courses permitting course entrance or exit at any time, based on demonstrated proficiency; 3) cooperative education courses where students may learn and earn at the same time; 4) financial aid. Concerning the last incentive, it may be necessary to train people who will leave the state to obtain employment rather than have them remain on relief rolls.

Other student recruitment practices noted are: 1) use of speakers' bureaus; 2) bulk mail of schedules and course descriptions; 3) speeches by advisory committee members; and 4) films of workers explaining their jobs.

A national information service might be implemented where parties interested in vocational education programs could telephone a national answering service. This service would direct the caller to information sources located in schools within the caller's area.

IV. FUNDING

Lack of funds for vocational and technical education is a limiting factor. For this reason, vocational education is offering primarily skill training, whereas in many cases, basic education needs to be integrated with the skill training. Financial aid must also be made available to persons who want to attend technical schools but who lack funds. The Vocational Education Amendments of 1968 (category funding) did not make available adequate funding for on-going programs and/or new construction. The money is for the lower end of the human spectrum of ability, yet industry's needs are for upper spectrum level personnel. Vocational education needs the funds to do the "whole" job.

Three suggestions for sources for funding were made: these were that vocational education: 1) use funds available in various federal programs to expand institutions; 2) locate and utilize leverage points in the federal government structure for funds; 3) show the manner of use and the yield from present and past funds, in order to obtain greater appropriations.

V. PROGRAMS NEEDED TO SERVE THE COMMUNITY

Recommendations in this area of concern include the need to make careful surveys before starting new programs. The community should be involved in planning and conducting programs through advisory groups.

On the community college level, better balance must be established between general education and career or skill education. Schools must also be located close to the potential students, and there must be a balance between employment opportunities, number of programs available, and availability of students.

More specific program recommendations are as follows: There is a greater need for 1) programs designed to meet the needs of individuals for all levels of student background and learning abilities; 2) remedial courses to upgrade skills and ability; 3) more emphasis on service-type occupations; 4) development of intensive training programs of short duration and of part-time programs. Post-secondary students who cannot fulfill requirements of full-time programs should be given the opportunity to enroll in remedial courses to prepare them for full-time programs.

VI. WHO SHALL BE SERVED?

At the present, we are serving only those who meet existing entrance requirements. There is criticism for fitting the student to the program rather than fitting the program to the student. More sophisticated techniques must be developed for identifying students who might best be served by vocational or technical programs. There is also a need to explore methods for reaching the educationally disadvantaged or others who are presently not being served. We are not adequately serving the high school drop-out, the minority groups, the veterans--all those in any population not presently qualified for admission to existing programs. Women in technical fields are not readily, completely, accepted by teachers in those fields.

VII. COUNSELORS AND COUNSELOR-TRAINING

Counselors appear to emphasize baccalaureate programs for students. Because of this, a large percentage of students that should be enrolled in vocational and technical education programs, are not being served. An experienced guidance counselor in high school, it was suggested, is needed, rather than another administrative level such as that proposed by the "clearinghouse" concept. By experienced counselor it is meant one who has had training and experience in depth concerning the world of work.

To emphasize the point, counselors need more work experience. One member of a discussion group reported that some universities have organized counselor training programs where counselors are exposed to industrial opportunities.

Others who should be involved in counseling students are former students and vocational-technical teachers. It was also pointed out that career guidance and counseling should be part of the curriculum for every high school student as well as for the vocational-technical student.

VIII. THE IMAGE OF VOCATIONAL-TECHNICAL EDUCATION

The poor image of vocational-technical education that counselors, students, and parents hold must be changed. Administrators of many junior colleges just "tolerate" vocational-technical training programs. This reflects a low status viewpoint of vocational and technical education to society as a whole. Parents, students, and counselors must be sold on the value of educational alternatives to the baccalaureate degree.

A variety of means could be employed to influence attitudes toward vocational and technical education. One method would be to clarify the word "college." "College" does not necessarily refer to a baccalaureate degree; therefore, the two-year institution must also be defined as college.

Vocational education must change the public misconception that vocational-technical education is primarily for the school dropout or low achiever. Specific methods are recommended to change the image of vocational-technical education. These suggestions include: 1) greater use of advisory committees; 2) introduction of information about careers and the world of work beginning in elementary school; 3) informing the public of employment needs in industry and the associated monetary rewards.

IX. VOCATIONAL-TECHNICAL EDUCATION PROGRAM DROPOUTS

Students who drop out before their completion of training programs often have adequate knowledge to satisfy employers' needs. The causes of student dropouts need to be determined; also, how these dropouts influence prospective students' decisions to enroll in vocational-technical education programs.

Four possible solutions to the dropout problem were recommended. These were: 1) Let student dropouts back into school as part-time students; 2) Be realistic in the initial structuring of programs so that they meet the student's needs; 3) Identify instructors with the greatest dropout rates as possible problem sources; 4) Provide open-ended courses with performance objectives rather than time spent in class as criteria for completing the course.

X. THE INTENT OF THE VOCATIONAL-TECHNICAL PROGRAM

The conference participants formulated several statements concerning the intent of vocational-technical programs. The intent of vocational-technical education is to provide a continuous public service in course offerings and activities; to set educational objectives in behavioral terms suitable to community needs;

to serve a given population within a given area, and to incorporate other institutions in planning to eliminate overlapping or duplication; to restructure programs to assure their relevance to students' needs; to employ public relations to generate community support for the institution and its programs.

PART III

EDUCATIONAL PERSONNEL DEVELOPMENT: AN INSTITUTIONAL CONSUMER'S VIEW

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Milwaukee, Wisconsin

SUMMARY OF RECOMMENDATIONS

GENERAL STATEMENT

In order to meet the needs of our increasing technological society, additional occupational education is needed. To complement this are both the additional need and the increased competence of educational personnel in the occupational areas.

BACKGROUND

The implementation of occupational education and programs of study requires a rather unique faculty. The occupational institute faculty needs a thorough knowledge of the principles and laws of science directly related to, or indirectly implied by, the occupational areas for which an institution proposes to prepare students. Moreover, in addition to proficiency in these skills, the faculty must be completely knowledgeable about the equipment related to the vocational-technical programs. They need to maintain close ties with industry in order to remain knowledgeable about the newest advances in the technology of their respective areas.

The general education faculty must possess attributes uniquely appropriate to technical and vocational schools. A faculty member teaching general educational programs must be somewhat knowledgeable about, and sympathetic with, technical and vocational programs so that he will be able to relate the appropriate principles and concepts in general education to these areas of study. Also, the general education faculty member must have enough depth and background in the academic areas to select from the disciplines those concepts which are uniquely appropriate for students pursuing vocational and technical curriculums.

These programs will be expensive, both in terms of the equipment needed for specialized programs of study and in the recruitment of a qualified faculty. But above all, throughout the institution there needs to be a high commitment to the place and function of general education and occupational education in the vocational schools, the technical institutes, and the community colleges, or any occupational center.

SPECIFIC RECOMMENDATIONS

The type of faculty desired for an occupational center program is derived from the definition, philosophy, and objectives of occupational education. Faculty characteristics may be considered to comprise two groups of attributes, one having to do with the knowledge and subject matter of specialized technologies and the other with the performance of the teaching function. The latter group includes all the personality traits, the interest in students, the enthusiasm for the subject, and the dedication to teaching that constitute the ideal teacher for all collegiate areas of education, not just for occupational education. Accordingly, it is the first-mentioned group of attributes which this recommendation will treat in the consideration given to the character of the occupational center faculty. Within these limitations, then, the faculty (collectively speaking) for a given occupational center program should possess and maintain up-to-date the following attributes according to the survey findings and opinions in this position paper.

a. A thorough knowledge of the principles and laws of science, applied science, and specialized science directly involved in, and indirectly related to, the occupational areas for which the occupational center program aims to prepare.

b. A thorough knowledge of the topics of mathematics by which the principles and laws of science are applied in these same occupational areas.

c. Proficiency in the manual skills and use of the tools and equipment by which products, structures, and processes are produced in industry within the technologies to which the program is related; this means personal experience through professional employment.

d. The linguistic skills essential to effective communication in the relevant occupational areas; this includes use of language as a tool in human relations as well as in instruction.

e. Relationships with industry by which to anticipate changes in the relevant technologies which have significance for the occupational center program; these to be developed and maintained, for example, by continuous follow-up on graduates, participation in community technical projects, membership in technical societies, summer employment in technical pursuits, subscriptions to and reading of professional and technical periodicals, etc.

f. Proficiency in appropriate areas of the social sciences as they pertain to practical human relations.

ADDITIONAL RECOMMENDATIONS

a. Sources of teachers in occupational education need to be broadened and present ones augmented.

b. More flexibility and experimentation is needed in state standards and certification requirements.

c. Greater leadership is needed from the federal, state, and local agencies toward improved and more relevant in-service education. Both short-range and long-range plans need to be provided.

d. More realistic approaches need to be given to teacher educators, with greater flexibility for their development of a relevant program. The number of teachers per teacher educator needs to be looked at from a practical standpoint in regard to selection and upgrading of teachers.

e. Business, labor, and industry need to be given an equal partnership role with the educational agencies to study and implement the recommendations together.

COMMITTEES

a. It is recommended that the U. S. Office of Education appoint a general committee representative of all community agencies, i.e., educational agencies, business, labor, and industry, to act on the above recommendations.

INTRODUCTION

The development of educational personnel to man the post-high school vocational-technical institutions of this country is one of the critical areas for study, not only to meet our present needs satisfactorily but also to effect the changes necessary to meet the future needs in a changing technological society.

In order to look at this problem from a comprehensive, long-range standpoint, the author has investigated many different facets of the problem from both his experience and that of other experts in the field. From this have emerged some specific evaluations and recommendations. These have been summarized and abstracted for the reader.

DEFINITION OF TERMS

The specific evaluations and recommendations mentioned above deal with the particular area of educational personnel development for post-high school technical education or the broader term, post-high school occupational education. Although all education eventually leads to occupational status, in this treatise occupational education will refer primarily to the provision of an individual's employability as he leaves the post-high school institution and continues throughout his life's work. It serves as an immediate bridge between man and his work.

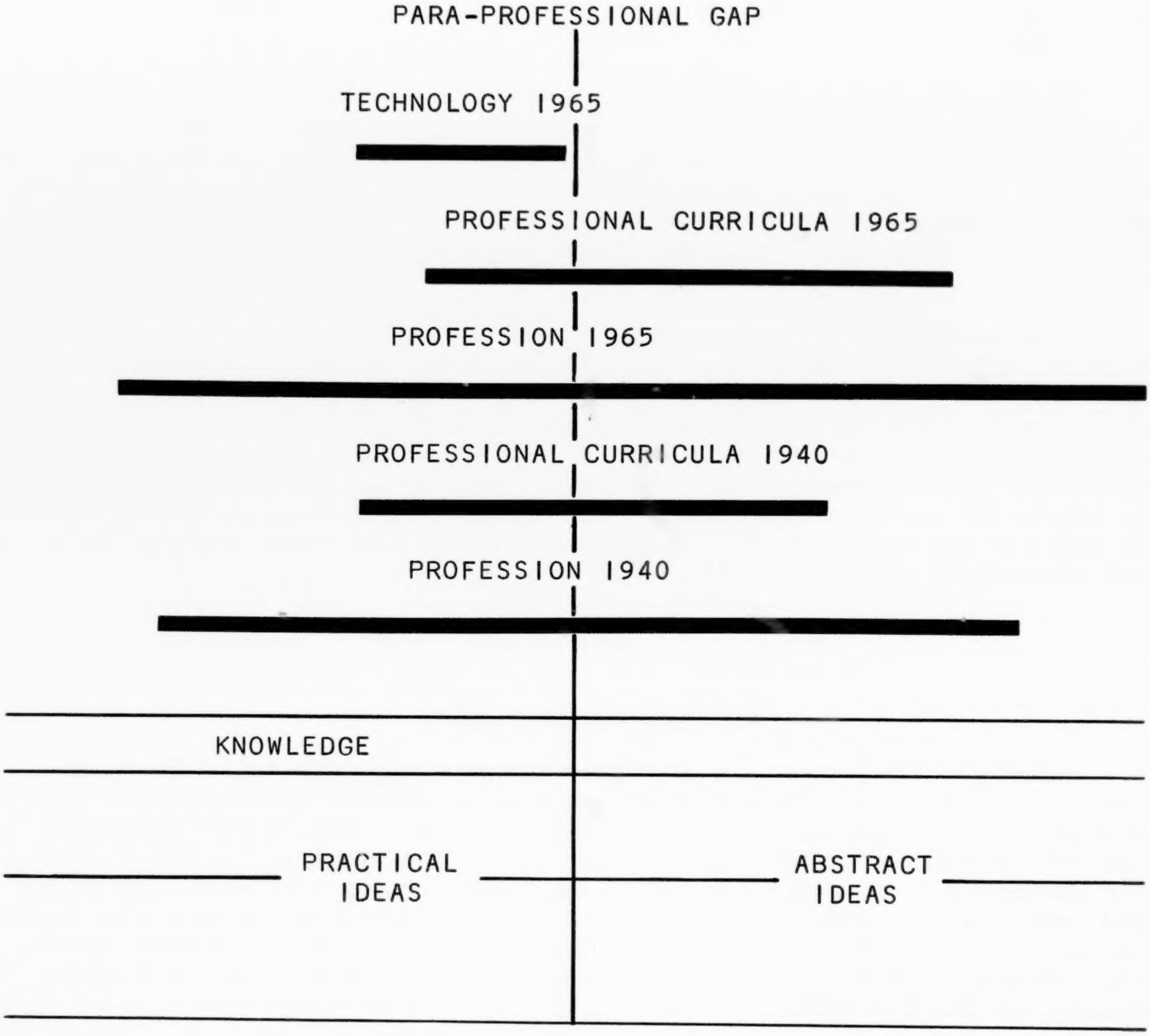
The post-high school institution can operate more effectively if the educational programs during elementary and high school are involved in occupational education.

Pre-vocational training has been defined as a general exploratory type of vocational training. It begins in its simplest form with specific concepts about the occupations being taught. These occupational concepts continue particularly in the social studies area during the elementary years of the student. Still broader exploratory occupational concepts continue in the late elementary and the junior and senior high schools in the form of industrial arts, home economics, business education, economics, and agriculture. These produce a broad approach to the occupational concepts and the areas without real penetration. These serve as introductory courses to the world of work.

Vocational training has been defined to include a more specialized training in a skilled occupation at the high school level or above. While these vocational subjects vary with the needs of the individual and the community, the emphasis is on job placement. The relationship of theory to practice is often a one-to-one ratio. The practical experience can be derived through lab experiences in school or out of school in a cooperative or work experience program. Specialized vocational programs vary in the United States from half-time to three-fourths of a day. The vocational course areas can be categorized most often as trade and industrial education, agricultural education, home economics education, business education, distributive education, and specialized work experience.

Technical education has been defined as post-high school specialized training at a junior college level. This educational phase has been developed to produce a para-professional person who is vitally needed in our new technological society to support the professional. The technician works between the professional and the skilled person. He has an understanding of the technological principles and proven techniques used by the professional. He has some of the manipulative abilities of a skilled craftsman. This particular training enables the technician to translate and give practical application to professional ideas. In many instances it will take more than one technician to fill the practical gap that is demonstrated in Chart No. 1.

CHART I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PROFESSION 1940
KNOWLEDGE
PRACTICAL IDEAS
ABSTRACT IDEAS

A good example of the pre-vocational and technical similarities and differences can be seen in Table No. 1 on industrial education.

Adult occupational education has been defined as: 1) apprenticeship training, which consists of courses in cooperation with labor and management leading to the journeyman status; 2) upgrading courses, which include any area in which adults need additional training to keep up with the technological changes; 3) manpower retraining courses for any area of acute unemployment or need as certified by the Bureau of Unemployment; 4) specialized programs needed by business and industry in order to increase their productivity; 5) specialized programs for community groups and services, including public welfare training programs to lower welfare costs; 6) credit courses for adults to allow them to graduate from high school and receive skilled training at the same time; and 7) avocational courses to fulfill interests, hobbies, etc.

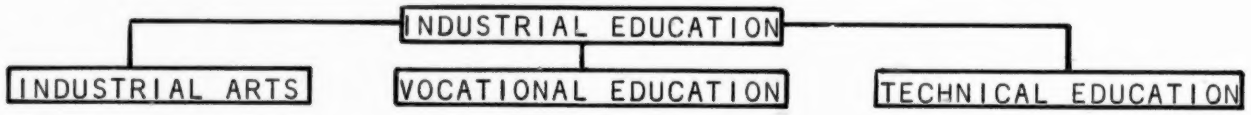
While the above definitions indicate an optimum approach from the standpoint of an integrated vertical curriculum in occupational education, it is known that quite the reverse is true. For this reason, the institution offering post-high school occupational education becomes more and more involved in the prevocational, the remedial, and even the adult basic education programs.

The educational personnel of any institution can be defined both broadly and narrowly. It can include the administration, the ancillary services, and the auxiliary services, as well as the direct instructional person, the teacher in the classroom. Although the major emphasis in this position paper will be directed toward the actual classroom teacher, the author certainly wants to indicate that the relationship of the recommendations to all of the members of the personnel team is very appropriate and should be taken in this context.

RESEARCH APPROACHES

The need for changes in our educational personnel development for post-high school occupational training institutions was determined by combining several approaches. The first approach was to generally define the area, study the national projections for manpower needs as indicated by industry, study both the major and specific objectives of occupational education, study the kinds of programs and courses we have and need in order to reach these objectives, and study the kinds of students we have or are producing to do the jobs.

TABLE I



A COMPARISON OF INDUSTRIAL ARTS, VOCATIONAL EDUCATION, AND TECHNICAL EDUCATION

	INDUSTRIAL ARTS	VOCATIONAL EDUCATION	TECHNICAL EDUCATION
Type of Training	General exploratory education of industrial processes	Specialized training in a trade skill	Extensive knowledge of a field of specialization
Grade Levels	Grades 1 - 12	Grades 9 - 12	Post-high school or junior college
Hours Per Week	1 - 10 hours per week	Minimum of 15 hours per week	Unspecified
Time and Location	Classes during regular school day on school grounds	During school day, school may or may not be on high school grounds	Classes day and night, on post-high school campus
Curriculum	Introduction to American industry through courses in woods, metals, textiles, photography, electricity, and others	Subjects vary with needs of community	Mathematics, sciences, and engineering processes as related to the field
Teacher Preparation	College graduate	Skilled tradesman, need not be a college graduate	College graduate (minimum)
Job Placement	No effort for job placement	Students placed and followed	Students placed and followed, or may be oriented toward higher education
Equipment Necessary	Hand tools; small, less expensive equipment	Modern production equipment essential	Modern production equipment essential
Federal Aid	No Federal aid	Federal aid	Federal aid

The second approach outlines the kinds and characteristics of the personnel needed in the future in order to produce an effective vertically integrated occupational curriculum. It relates to the courses, the desires of industry, the kind of student to be produced, and the kinds of personnel to be developed.

The third approach indicated the resources for the production of the personnel.

The last approach was to present the recommendations and conclusions for the practical action necessary in order to develop the personnel to fulfill the philosophy and objectives of occupational education for both today and tomorrow.

THE OBJECTIVES OF VOCATIONAL EDUCATION

MAJOR OBJECTIVES

Vocational and technical education are many times referred to as occupational education, and yet all education is occupational. All education is aimed at constructive citizenship. As a person receives some type of practical program that can be applied directly to his life's work, then he can become a more constructive citizen. Occupational education as we know it is closely related to the economic world, since it becomes very directly the consumer of the human resources. Finally, there is a realization that the occupational education is an integral part of education and that, at this time, there is the opportunity to expand our future supply of well-developed capability. First, because our youth population has grown tremendously; second, because at the present time we are wasting a vast amount of potential talent in this country, especially the non-college-bound, as well as the college-bound, who become academic suicides because they shouldn't have been placed in such a situation in the first place. The dropout rate at the high school is 20 percent between the ninth and twelfth grades. The dropout rate at the college level is even higher--many times reaching to 50 or 60 percent. In this age of change, it is education which is our most precious resource, but not necessarily a college education.

The challenges brought about by our technological innovations call for a new look at the educational focus upon technology and man and what it may mean to the individual concerned. Our hopes for the future depend not only upon future knowledge, but also upon a more realistic and practical new look in the dignity and pride of work, whether it be that of a philosopher, scientist, auto repairman, or baker. There are still too many people--teachers, counselors, and parents--who regard physicians, lawyers, and executives as the real people in our society. It just isn't true, nor is it realistic or practical to think this way. Dr.

John W. Gardner, former Secretary of the Department of Health, Education, and Welfare, said it most concisely when he stated that "The society which scorns excellence in plumbing because plumbing is a humble activity and tolerates shoddiness in philosophy because it is an exalted activity, will have neither good plumbing nor good philosophy; neither its pipes nor its theories will hold water."

With this information as a background, the objectives of occupational education are threefold. The first is motivational, or furnishing an interest for students. Take for example the auto mechanics curriculum in occupational education in the United States. Less than 50 percent of the students who take auto mechanics courses become auto mechanics. This is because many of them rise to higher positions, such as mechanical engineering, drafting, design work, and electrical engineering. The auto mechanics course serves as a motivational core to stimulate students' interests. The student is interested in automobiles and their working. For this reason, his math, science, social studies, English, and all related courses are centered around this interest core. The student remains in school and is stimulated by this interest core and, therefore, sees higher horizons and rises to them. As another example, a young girl recently was a valedictorian in her high school. Everyone said that she should go to a regular four-year university in order to utilize her abilities to the utmost. She indicated that she did not want to do so, but instead enrolled in a trade or occupational center. The girl's interest was in cosmetology. She studied cosmetology and did very well and is now achieving her goal, which is to become one of the best cosmetologists in the world. Students in drafting oftentimes go further in engineering and architectural work. The drafting serves as a stimulus or a motivational interest to do so. The related subjects of math, science, English, and social studies become easy, become part of the student's interest, and the motivation makes them much more successful in these subject areas than if the subjects were taken separately in an unrelated capacity. Look at the attendance records of many students in occupational, vocational, or practical arts centers. Because they are taking courses that fit into their interest pattern, their attendance records are excellent. Many of these students were truancy problems in an academic setting where they saw very little practical relationship between their courses and their life's work.

The second objective of occupational education is understanding the world of work. Our world of work is changing and is changing rapidly. It must be impressed upon our students that our occupational centers and the educational skills they are receiving there will not necessarily take care of their needs for their lifetime. They will continually have to be retrained and upgraded for the balance of their life. Our world is changing, and in this, before we can properly address ourselves to this changing manpower and the educational problems of our nature, we must think not in terms of today or the next few years, but in terms of the next 35 years or more. We must take a good hard look at what kind of world we will face. By 2000 A.D., our present space travel concepts will have been shattered. Communication satellites will be as common as today's jet plane, and so will worldwide television. It is conceivable that we will have an orbital post office, and high speed facsimile systems could be commonplace. A distinction between letters, telegrams, and teletype messages will tend to disappear, since in each case delivery time will, for all practical purposes, be zero. What happens to the post office, or its jobs, as we know them today? What jobs will emerge from this impact? It is also conceivable that we will have orbital newspapers. Already there have been demonstrations of simultaneous setting of international magazines. The printed newspaper, as we know it today, could be replaced by an electronic presentation. What about the jobs that will emerge from this impact? What about intracontinental and intercontinental telephone and telephonovision? There is little doubt that today a good percentage of the cost of any call made goes into buying and maintaining equipment which merely computes how much you owe. The telephone or telephonovision may, in time, become a free public service with the same status as the water supply because it will be just as essential as water to the society of the future. With communication changing rapidly, will there be a need for Christmas cards and birthday cards? What happens to the people associated with this kind of business? What kinds of jobs will take their place?

If we are going to understand the world of work, we have to understand the image that occupational education has and should have. I think that it takes a great deal of courage for a counselor in a school to contend with parents, society, and schools which measure success in terms of how many go on to a college education, rather than education commensurate with ability, interest, and talents of the individual concerned. This is a social class bias that comes from an ignorance of the world of work as it will be and really is, as apart from inculcated past beliefs and values about jobs. It stems from an ignorance of the facts, facts which show that nationwide about one-half of those entering college become academic suicides by the end of the sophomore year. A stupid, unnecessary waste of human resources, and in this, we who have some of the advantages of having seen the light also have a heavy responsibility and obligation. Here we might liken the plight of the counselor or the educator to one of Plato's allegories when he told of prisoners chained in a cave for so long that they had lost touch with reality and felt that their whole existence was wrapped up in the shadows which they could see projected on the walls ahead of them. Plato goes on to say that if one escaped the outside world of reality and returned to tell the others what was really outside the cave, they would probably think him completely out of his mind. Yes, this is exactly the point that is trying to be made. Any counselor or educator must escape from the shadows of the dark cave into the outside world of work, and then must go back to the cave and lead the others to the world of reality, as painful as it may be to all concerned.

At first glance it may appear that we can't lick this problem because it is said that counselors and educators and parents many times have a built-in middle or upper middle subjective, social class bias with all its attendant values, beliefs, and feelings. The bias that says that everyone should have a college education rather than an education. There are a number of people today who say that we can't lick this bias. The author personally disagrees with this kind of philosophy. A first step is to recognize that this is one of our major, most difficult problems to which we must give some serious thought. In order to have success in handling this problem let us look into what must be done. As counselors and teachers, it is obvious that we have a tremendous public relations job before us, not only in educating ourselves as to the realities and the dignity and pride of work, but also in educating the parents and teachers as to the future welfare of our work.

The point I am trying to make here is that, too often, educators and parents use the projection technique for grinding their own axes, instead of looking into the best welfare of the youngsters. Too often we try to play God, the perfect, when really we are but human beings with all of their imperfections. We must promote the fact that in our society we need geniuses of all kinds, in auto mechanics, TV repairmen, technicians, philosophers, scientists, and what have you. We must promote the concept of the dignity of work no matter what that work may be, just so it actualizes the potentiality of the person performing that work and he becomes a contributing member of our society.

The third objective of occupational education is to be able to function in a world of work. To the crystal ball gazer this adds up to four general levels of occupations in the labor force of the year 2000 A.D., with full dignity and teamwork. It is foreseen that one level will be that of a super-specialist requiring a doctorate, or post-doctorate, level of education but with inner disciplinary knowledges and skills. Another level will be that of a specialist requiring graduate or at least college training in a number of disciplines or specialties and not with today's rigidity of related major and minor sequence. Thirdly, there will be the technician requiring at least two years of a post-high school type of education but requiring broad inner disciplinary training for flexibility of the technology changes. Fourth will be the skilled person requiring post-high school education of a specialized nature and requiring some broad training for flexibility as his skill changes. These four levels of occupations for the future may well become involved in cross-disciplinary approaches to his job. In this he will become a vital component and support of some rather untraditional areas of work such as biomedical engineering, biospace engineering, human factors engineering, pharmaceutical-psychological engineering, electrical-mechanical engineering. . . and who knows what else the future may require? The person receiving these four levels of training will have to have a tremendous amount of specialization, but an approach that is broadening as well, because the specialist will have to have a broadened approach whereby he can move flexibly with his particular skill or technical area as it changes from day to day and month to month.

To meet these three objectives there must be a comprehensive school--a comprehensive institution with a flexible curriculum and with excellent guidance and counseling and teaching. Many contacts with counselors and teachers have shown that they sometimes suffer from five limitations. This is not to say that all counselors and teachers have these deficiencies. But first, many have too little professional training. Second, they know too little about the nature of students they counsel and work with, and third, they know too little about the vocation for which they counsel and teach the students. Fourth, they know too little about vocations that do not require a college degree, and fifth, they know too little about the changing nature of occupations and what the future holds for such occupations. This problem cannot be left to counselors and teachers alone. It is the responsibility of all educators, all citizens, business, industry, government, the church, and social agencies. One cannot have a strict, inflexible curriculum that is not interest centered. A very flexible curriculum that has both specialization and broadening aspects to meet the particular motivational interest cores of the students is needed. This is the challenge before us in occupational education in its role in the development of the whole person.

SPECIFIC OBJECTIVES

A method of securing the attitudes of individuals was developed through studies by Colorado State College and the Ford Foundation using the Q-Sort technique with a sampling of more than 40,000 educators. They consisted of lay board members, P.T.A. groups, students, and citizens. The above technique developed 60 different behavioral outcomes that were felt to be vitally necessary as a part of the behavior of each individual who goes through our educational system. This was developed through a priority basis arrangement. They are listed in Table No. 2 but are in no particular priority or order.

TABLE 2

SIXTY MOST IMPORTANT BEHAVIORAL OUTCOMES

1. Participates in artistic and aesthetic activities.
2. Understands the basic facts concerning health and disease.
3. Is a participant and spectator in many sports and other pastimes.
4. Works well with others holding differing views, still maintaining his own views, ideas, and standards.
5. Works to improve the health of the community.
6. Can read the English language with understanding.
7. Knows satisfaction and pride in good workmanship.
8. Is skilled in homemaking.
9. Enjoys a sincere and varied social life.
10. Understands the requirements and opportunities for various jobs.
11. Maintains democratic family relationships.
12. Has moral values to give direction to his own life.
13. Has a command of social courtesies and skills needed in interpersonal relationships.
14. Uses some leisure time to read for pleasure and information.
15. Appreciates beauty.
16. Protects his own health and that of his dependents.
17. Is skilled in listening and observing.
18. Is especially careful to apply the principle of full respect of the personality of the individual when he represents cultural, racial, and religious interests different from his own.
19. Can work and play with others.
20. Is skilled in social behavior.

21. Has recognized his own potential and accepted his limitations.

22. Takes appropriate measures to safeguard his economic interests.

23. Understands the importance of the use, management, and conservation of natural resources.

24. Appreciates the social value of various kinds of work.

25. Can write the English language clearly.

26. Has an interest in and respect for his fellowman.

27. Has respect for the law.

28. Recognizes the family as a social institution.

29. Can speak the English language clearly.

30. Has some literary tastes and standards.

31. Understands the merits of the free economic system.

32. Understands in a general way the basic facts of heredity and eugenics.

33. Has developed his specialized academic talents.

34. Has developed his creative talent.

35. Has an understanding of scientific advances and their contribution to the general welfare.

36. Understands the major problems and issues facing us in our relations with other peoples of the world.

37. Recognizes the discrepancies between democratic ideals and practices.

38. Has an understanding of the way public opinion is formed.

39. Understands competing economic systems, such as communism.

40. Has a desire for learning.

41. Understands social structures and social processes.

42. Has standards to guide his expenditures of money in personal living.

43. Has a sense of historical time and of cultural perspective.

44. Has a basic knowledge about the various sciences.

45. Understands how he can act to bring about orderly change to make practice closer to our ideal of the democratic process.

46. Has developed specialized vocational competency.

47. Becomes a good member of work groups.

48. Prepares defenses against propaganda.

49. Understands the scientific method and its application to problem-solving.

50. Has an understanding of the Constitution and government of the United States.

51. Has selected his occupation.

52. Has developed specialized nonacademic talents such as art, music, and athletics.

53. Respects honest differences of opinion.

54. Can read and write at least one foreign language.

55. Accepts his civic duties.

56. Has some opinions on economic affairs of the community and its organizations and institutions based on his study of them.

57. Is sensitive to the disparities of human circumstance.

58. Has had volunteer work experience related to occupational choice.

59. Solves his problems of counting and calculating.

60. Has developed his intellectual ability.

PROGRAM AND COURSE OFFERINGS

A total comprehensive program with course offerings in occupational education to meet the above objectives, both major and specific, might be listed as in Table No. 3. It could be obsolete by the time that it is published. It may not be possible to staff the school to meet the above objectives with the curriculums listed in Table No. 3 either today or tomorrow.

TABLE 3

MILWAUKEE AREA TECHNICAL COLLEGE PROGRAMS

DISTRIBUTION OF OVER 1800 COURSES OFFERED AT THE MILWAUKEE TECHNICAL COLLEGE

Instructional Division	Technical and Junior College	Adult Vocational	Apprentice	Adult High School	Continuation
Business	95	112	--	--	3
Graphic and Applied Arts	60	76	41	--	5
Home Economics	--	60	--	--	20
Industrial	--	378	293	--	17
Service and Health Occupations	109	37	39	--	2
Technical	200	--	--	--	--
Television	8	--	--	--	--
General Education	128	67	3	56	43
TOTAL	600	730	376	56	90

ADULT VOCATIONAL DIVISION AND APPRENTICE DIVISION

Business

Departments:

- Accounting
- Business Data Processing
- Business Machines
- Management Development
- Marketing
- Related Business
- Secretarial Science

Home Economics

Departments:

- Clothing
- Family Health
- Family Relations
- Foods
- Home Management and Furnishings
- Related Art

Service and Health Occupations

Departments:

- Barbering
- Cosmetology
- Food Service
- Nursing

Graphic and Applied Arts

Departments:

- Commercial Art
- Crafts
- Photography
- Printing and Publishing
- Sign Painting

Industrial

Departments:

- Air Conditioning, Refrigeration, and Heating
- Aircraft Mechanics
- Appliance Servicing
- Architectural Drafting
- Automobile Servicing
- Baking
- Bricklaying and Masonry
- Cabinetmaking and Millwork
- Carpentry
- Carpet and Resilient Tile Work
- Combustion Engines
- Electricity
- Electronics, Radio, and Television
- Foundry
- Glazing
- Industrial Hydraulics-Pneumatics
- Machine Shop

Departments:

- Mechanical Drafting
- Metallurgy
- Painting and Decorating
- Patternmaking
- Plumbing
- Power Plant Engineering
- Power Sewing
- Sheet Metal
- Shoe Servicing
- Sprinkler Fitting
- Steamfitting
- Structural Steel and Iron Work
- Tailoring
- Tool and Die Making
- Upholstery
- Watch and Allied Instrument Repair
- Welding
- School for Workers

General Education

Departments:

- Basic Education
- Driver Education
- English
- Foreign Language
- Mathematics

Departments:

- Music
- Natural Science
- Physical Education
- Reading
- Social Science
- Speech

Television

Department:

- Telecasting

TECHNICAL DIVISION

Business

Departments:
- Accounting
- Business Administration
- Business Data Processing
- Marketing
- Secretarial Science

Graphic and Applied Arts

Departments:
- Commercial Art
- Photography
- Printing and Publishing

Service and Health Occupations

Service Occupations

Departments:
- Fire Technology
- Police Science Technology
- Restaurant and Hotel Cookery

Health Occupations

Departments:
- Dental Assistant
- Dental Laboratory Technology
- Medical Assistant
- Nursing

Television

Department:
- Telecasting

Technical

Departments:
- Air Conditioning and Refrigeration Technology
- Architectural Technology
- Automotive Technology
- Chemical Technology
- Civil Technology
- Diesel Technology

Departments:
- Electrical Technology
- Fluid Power Technology
- Mechanical Technology
- Metallurgical Technology
- Photo Instrumentation Technology
- Technical Engineering

JUNIOR COLLEGE DIVISION

Departments:
- English
- Foreign Language
- History
- Mathematics
- Music

Departments:
- Natural Science
- Physical Education
- Reading
- Social Science
- Speech

ECONOMIC FORECASTS

NATIONAL PROJECTIONS FOR MANPOWER NEEDS OF THE FUTURE

In a recent nationwide study of occupational needs by a national committee of the U. S. Office of Education, the following imperative educational needs were determined:

a. No longer can the emphasis be on matching the best man with an existing job. It must be placed on providing a suitable job for each man or equipping the man to fill a suitable job.

b. Less emphasis must be placed on manpower as an economic resource and more on employment as a source of income and status for workers and their families.

c. The reorientation of values is needed to satisfy a new set of closely interwoven functions.

d. The opportunity must be provided to improve the individual's employment status and earnings and to help him adapt to a changing economic environment and an expanding economy.

e. Clear consciousness must be integrated throughout the schools in order to enlarge the number of options and alternatives for individual pupils, in terms both of occupations and of higher education.

f. The study of the world of work is a valid part of education for all children. It documents for youth the necessity of education, both academic and vocational. These findings were based on the fact that approximately seven million persons were enrolled in occupational education during 1967--a significant increase since 1962. (See Table No. 4). Enrollment increase from 1965 to 1967 was about 300 percent larger than the enrollment increase for the years 1962 to 1964. In the distribution of enrollment in occupational programs according to level, the secondary age group is the highest. (See Table No. 5). Twenty-five and four-tenths percent of the students in public secondary education, grades nine through 12, were enrolled in vocational programs. Home economics for the housewife, business education, and trade and industrial education led in enrollment at other occupational levels. (See Table No. 6). In a national sample of follow-up studies of 606,872 occupational graduates of 1966, 80 percent of those available for placement were placed in their trained field or related area. Only four percent were unemployed. Out of approximately 220,000 persons not available for placement, about two-thirds continued schooling full-time. (See Table No. 7).

TABLE 4

ENROLLMENT IN OCCUPATIONAL PROGRAMS IN U. S.

Fiscal Year	Total Enrollment
1962	4,072,677
1963	4,217,198
1964	4,566,390
1965	5,430,611
1966	6,070,059
1967	6,880,000

TABLE 5

DISTRIBUTION OF ENROLLMENT IN OCCUPATIONAL PROGRAMS

Fiscal Year 1966	
Secondary Schools	3,048,248
Post-secondary Schools	442,097
Adult Programs	2,530,712
Youth With Special Needs	49,002

TABLE 6

PREPARATION FOR SPECIAL OCCUPATIONAL AREAS

Fiscal Year 1966	
Agriculture	907,354
Distributive	420,426
Health	83,677
Home Economics (Homemaking)	1,855,824
Home Economics (Gainful)	41,846
Office	1,238,043
Technical	253,838
Trade and Industrial	1,269,051

TABLE 7

FOLLOW-UP STUDY OF GRADUATES IN U. S.

NATIONAL SAMPLE OF 606,872 GRADUATES (OCTOBER 1966)

Persons available for placement	347,370
Placed in field trained or related field	80%
Placed unrelated to training	12%
Placed part-time	4%
Unemployed	4%

Persons not available for placement	219,482
Entered armed forces	45,517
Continued school full-time	141,302
Other reasons	32,663
Information not available	40,020

Congress has made abundantly clear through the passage of the Vocational Act of 1963 and its amendments in 1968, that it considers the development of the nation's manpower resources to be a major tool in combating unemployment and poverty and maintaining continued economic growth in America. Further evidence of national concern with manpower development has been reflected in congressional support for massive programs of federal assistance to public schools and higher education. A recent inventory revealed that there are in existence 34 federally assisted manpower development programs, exclusive of general aid to education and in-service training. There are many excellent studies which have projected manpower needs for the next decade and beyond. Their conclusions are based upon past statistics and the seasoned judgment of experts concerning future trends. The studies agree on the following trends:

1. The total labor force is expected to rise about one and one-half million a year and the proportion of the population in the labor force will increase;

2. There will be a continuing crisis of large-scale entry of youth into the job market;

3. Women will make up a greater proportion of the labor force than they have in the past;

4. The level of educational attainment will be a critical factor in matching workers and jobs of the future;

5. The proportion of laborers will be smaller with the need for more skilled workers showing a sharp increase;

6. The fastest growing occupations during the next decade will continue to be the professional and technical, service and clerical occupations;

7. A rapid growth of jobs is expected in the health occupations which will be supported and accelerated as the Medicare program takes effect;

8. There will be an increasing demand upon the worker for better education. Even high school graduates will find it difficult to get jobs without extra training in voca-

tional or technical preparation. Tables No. 8 and 9 and Charts No. 2, 3, 4, and 5 lend support to the trends stated.

TABLE 8

AVERAGE ANNUAL CHANGE IN THE LABOR FORCE, 1960-80

Sex and Age	Actual Change, 1960-64	Projected Change		
		1964-70	1970-75	1975-80
14 Years and Over				
Both sexes: Number (thousands)---	973	1,505	1,529	1,552
Percent-------	1.3	1.8	1.7	1.6
14 to 24 Years				
Both sexes: Number (thousands)---	567	723	444	299
Percent-------	3.8	4.0	2.1	1.3
25 Years and Over				
Men: Number (thousands)-----	69	351	629	762
Percent-------	.2	.8	1.4	1.6
Women: Number (thousands)---	337	430	456	491
Percent-------	1.8	2.0	1.9	1.9

NOTE: These projections assume the highest levels of employment consistent with recent peacetime experience and may be slightly conservative in relation to rates of labor force participation which might be generated by a prolonged period of full employment.

Details may not add to totals due to rounding.

Source: U. S. Department of Labor, Manpower Needs of the Future.

TABLE 9

EDUCATIONAL ATTAINMENT OF THE CIVILIAN LABOR FORCE, 25 YEARS OLD AND OVER, MARCH 1964 AND PROJECTED, 1975

(Percent distribution)

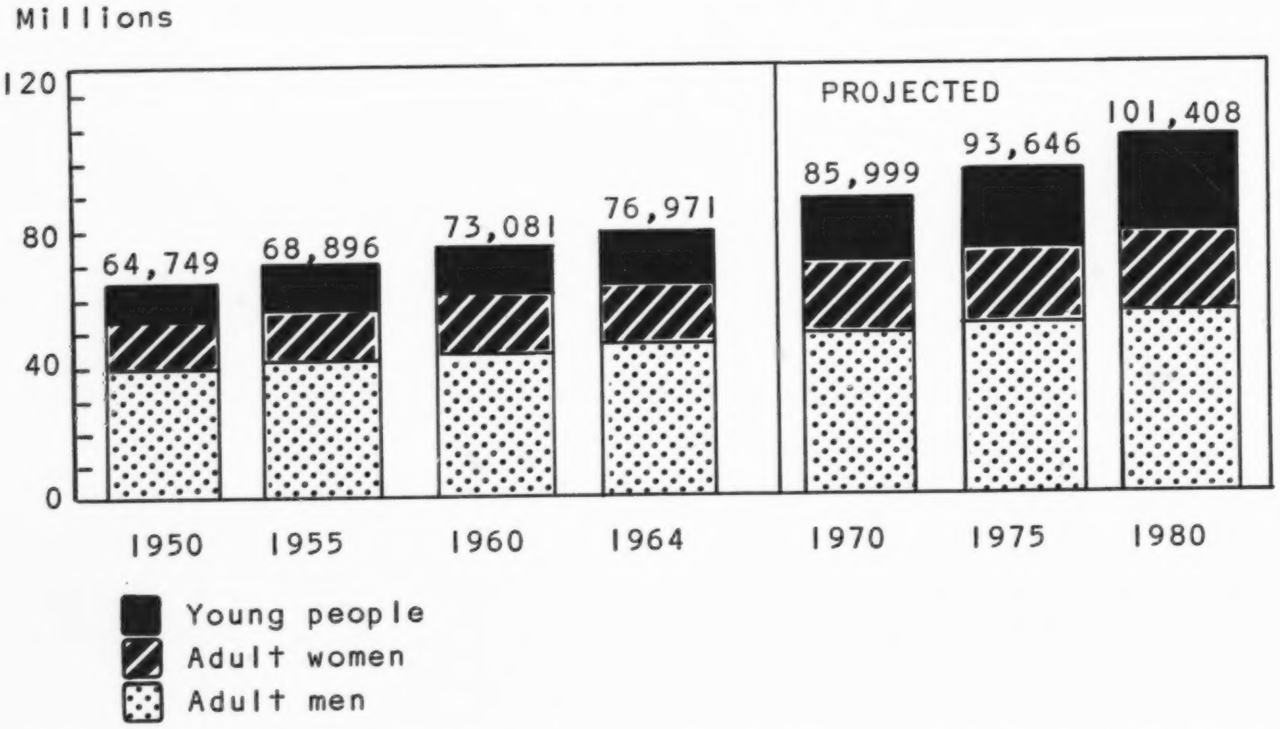
Years of school completed		March 1964	1975
Total:	Number (thousands)	59,638	69,857
	Percent distribution	100.0	100.0
Less than 4 years high school		46.2	38.5
4 years high school or more		53.8	61.5
Elementary:	Less than 5 years	4.2	2.6
	5 to 7 years	9.1	6.6
	8 years	14.0	8.8
High school:	1 to 3 years	18.9	20.5
	4 years	32.0	35.8
College:	1 to 3 years	9.7	11.4
	4 years or more	12.1	14.3

SOURCE: Projections for 1975 by the U. S. Department of Labor based on data from the U. S. Department of Commerce.

Manpower Needs of the Future.

CHART 2

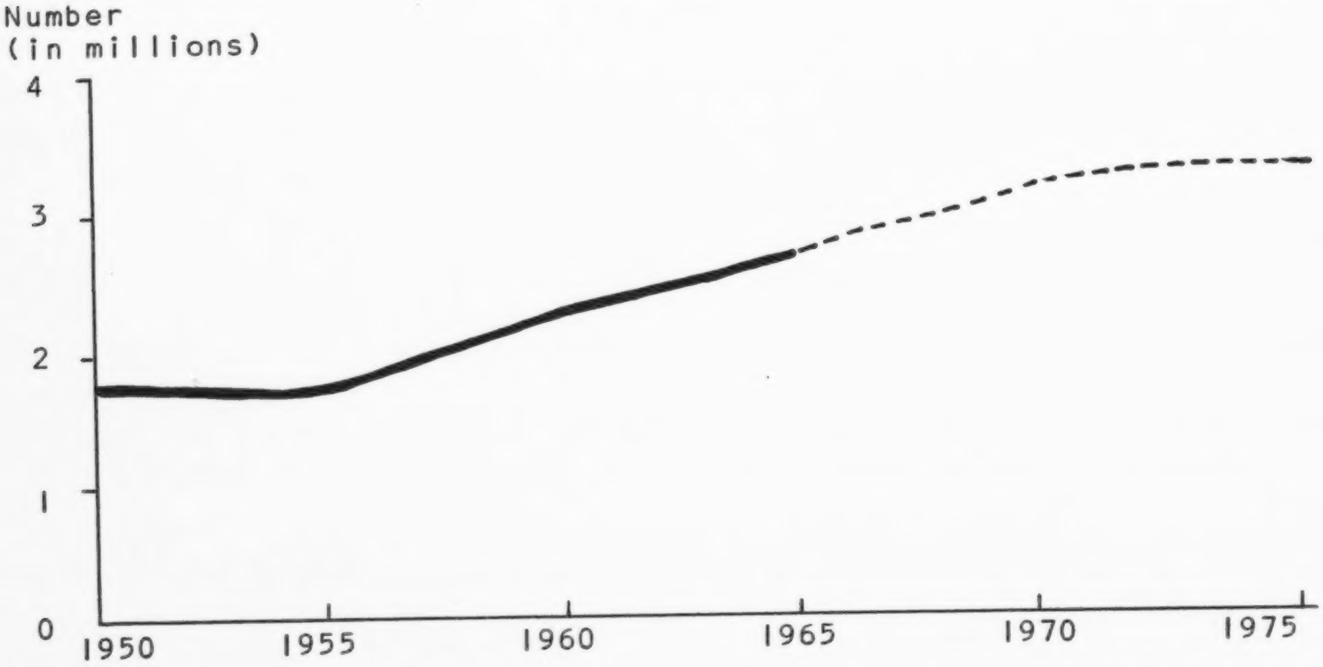
LABOR FORCE GROWTH WILL BE MUCH SHARPER OVER THE NEXT 16 YEARS THAN IN THE PRECEDING PERIOD, WITH MOST OF THE INCREASE AMONG WOMEN AND YOUNG PEOPLE.



SOURCE: U. S. Department of Labor, Manpower Needs of the Future.

CHART 3

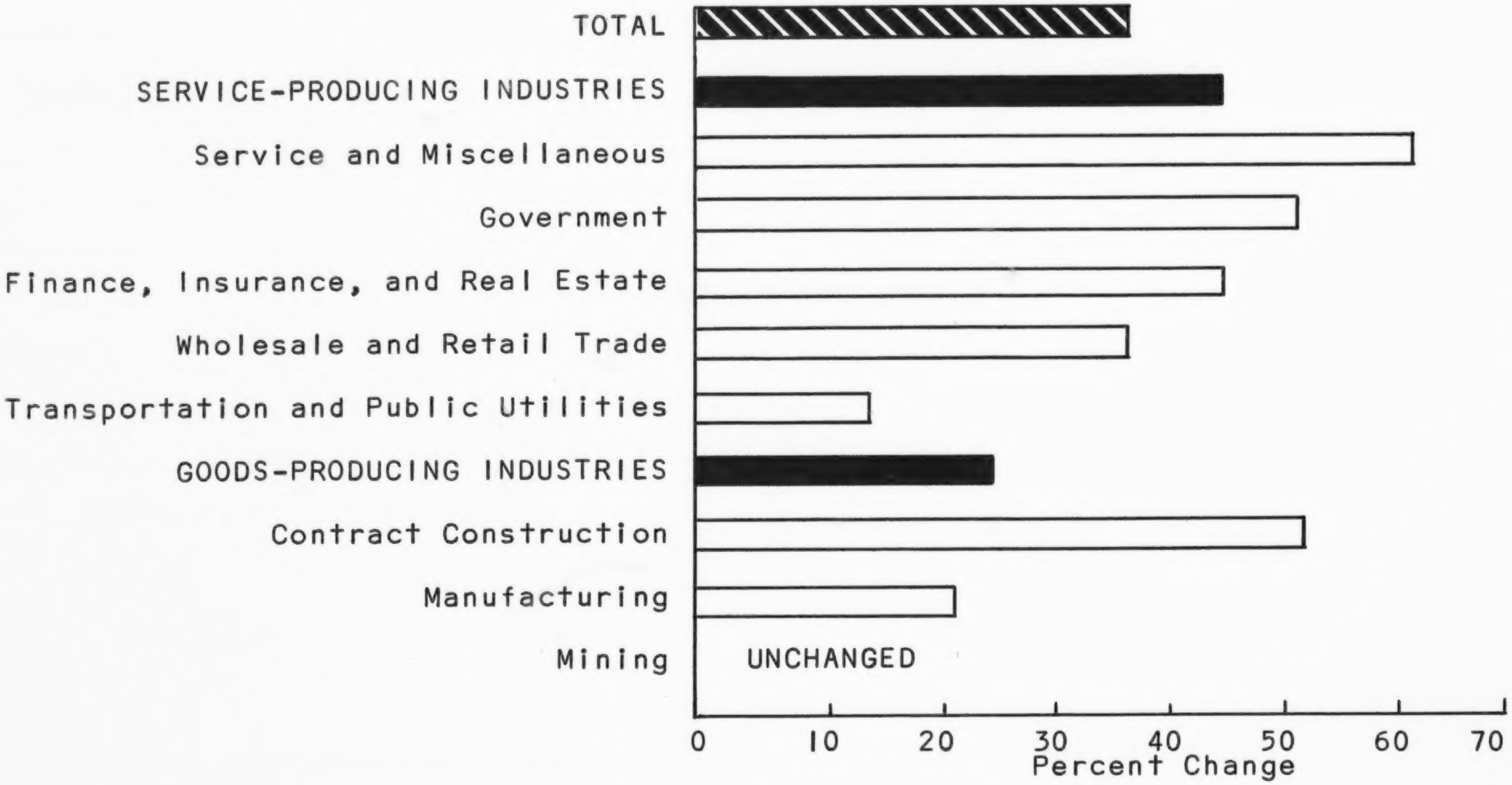
NEW YOUNG WORKERS ENTERING LABOR FORCE ANNUALLY, 1950-75



SOURCE: U. S. Department of Labor, Manpower Needs of the Future.

CHART 4

LARGEST EMPLOYMENT INCREASES BY 1975 WILL BE IN SERVICE-PRODUCING INDUSTRIES

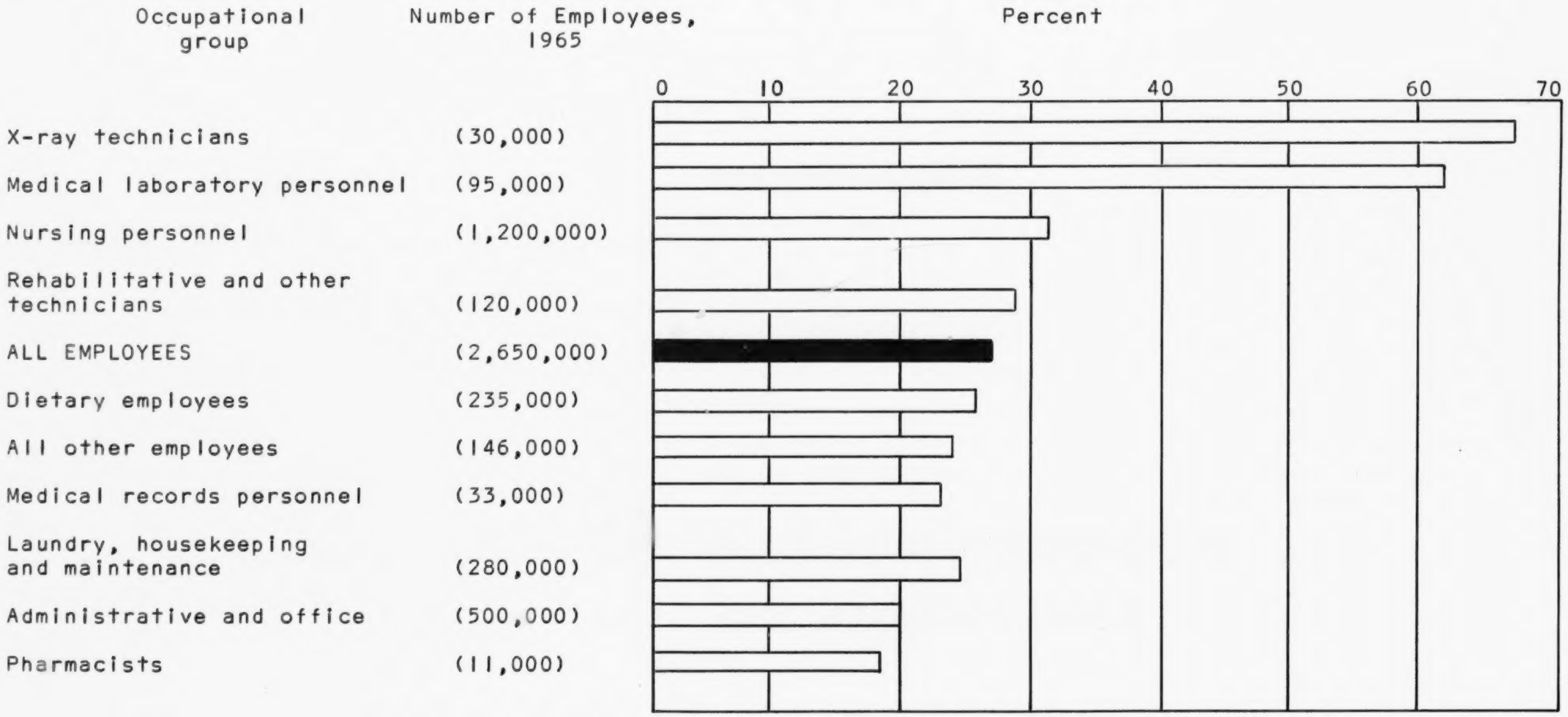


SOURCE: U. S. Department of Labor, Manpower Needs of the Future.

CHART 5

EXPECTED PERCENTAGE GROWTH OF EMPLOYMENT IN THE HEALTH SERVICE INDUSTRY,

BY OCCUPATIONAL GROUP, 1965 TO 1975



SOURCE: U. S. Department of Labor, Manpower Needs of the Future.

All who are involved in this great effort to prepare our young people for gainful employment can take some pride in the impressive vote of confidence that has been received from the nation through Congress in the passage of a series of laws that will help meet the manpower needs of the future. As incomes rise and the population spends more and more on all kinds of services, the service industries are expected to grow faster than any of the other groups, probably increasing their employment by 61 percent in 1975. Construction activity is also expected to grow very rapidly as the rising population of new families demands more homes and apartments, and as government funds are used to spur construction of schools, hospitals, and roads.

If goals for economic growth and overall employment are reached, construction employment will increase 52 percent by 1975. By 1975, employment of professional and technical workers may increase by well over two-fifths. The growth in scientific and technical employment, which has been a feature of postwar occupational trends, will continue to be rapid. The Bureau of Labor Statistics estimated in a report issued last year that the demand for technicians will grow at the same rate as the rapidly increasing demand for scientists and engineers. Further, the report estimated that the supply of technicians will continue to fall short of the numbers required.

Probably the most significant overall change in the nation's occupational structure has been the shift toward the white-collar jobs. The largest group of the white-collar workers (clerical and sales workers) is also expected to have a rate of employment increase close to or greater than that projected for the work force generally. The number of clerical workers needed should grow about one-third by 1975. The overall growth for the skilled workers, as a result of growing needs for mechanics and repairmen, building trades craftsmen, and foremen, is projected at one-fourth, roughly the same rate as that projected for employment in general. In view of the continued declines in agricultural employment shown by the employment projections from major industry, decreasing requirements for farmers and farm workers are, of course, indicated. However, an increase is definitely indicated in the agri-business field.

A labor department study has indicated that today the average 20-year-old man in the work force could be expected to change jobs about six or seven times during his remaining working life. While the job of training young people for specific jobs is important, provision must also be made to equip them with a broad enough background for job changes. As the 1965 manpower report to Congress stated, "Many manpower difficulties can be traced to educational deficiencies. Today's and tomorrow's world of work puts a premium on capacity for skill development and for redevelopment to meet increasingly frequent changes throughout life. Education is the prime developer of such capacity." The most rapidly growing occupational groups in the nation are shown in Table No. 10. Research at the Battelle Memorial Research Institute, Columbus, Ohio, indicates that these occupational groups will continue to demonstrate outstanding growth.

TABLE 10

FASTEST-GROWING OCCUPATIONAL GROUPS

(1950 to 1960, and Projections to 1975)

United States

	Percentage Increase 1950/1960	Percentage Increase 1960/1975
Professional and Technical	47.0	111.6
Clerical	33.8	75.2
Service Workers	26.7	78.1
Sales Workers	18.7	27.2

	Percent of Total Employed 1960	Percent of Total Employed 1975
Professional and Technical	11.2	18.0
Clerical	14.4	19.2
Service Workers	8.4	11.4
Sales Workers	7.2	6.9

The growth of professional and technical employees along with expansion of the other so-called white-collar occupations has led to the conclusion that our economy is moving into the human resources era in which brainpower and technical skills are emphasized. The growth occupations listed in Table No. 10 are also the occupations that require high levels of educational skills. The projected educational level that will be required by the United States Labor Force in 1975 is shown in Table No. 11. Battelle Memorial Research Institute indicates that the fastest growing group in terms of educational attainment will be those with some college training, 13 to 15 years of school. This group is projected to increase by 92 percent from 1960 to 1975.

TABLE 11

EDUCATIONAL ATTAINMENT OF MAJOR OCCUPATION GROUPS, UNITED STATES IN 1975

Percent in each occupation

Occupation Group	Years of School 11 or less	 12	 13-15	 16+
Professional and Technical	6.6	19.6	22.0	51.8
Clerical	26.7	51.1	18.8	3.4
Service Workers	66.1	26.2	7.2	.5
Sales Workers	42.9	29.9	16.7	10.5
Craftsmen	53.0	35.7	8.7	2.5
Operatives	66.8	28.1	4.8	.3
Managers	23.1	33.5	22.0	21.4
Laborers	74.8	20.1	4.5	.6

STUDENT PERSONNEL

If occupational education is going to do its rightful job to meet the needs of individuals as well as the economic needs in the United States, it will present a student personnel representing a closely normal population. If nationally 75 percent of the students are interested in and prefer some type of occupational training and if nationally 25 percent of the 75 percent have plans to go to college, there is a definite place for the above-average student in post-high school occupational training. With the fact that the national dropout rate is 20 percent from high school, and 50 percent or more from college, there is a need for the average and below-average student to participate in occupational training. If an occupational training program meets the needs of the student, it will be necessary to gear it to handle all kinds of students, i.e., the above-average, the average, and the below-average. Note the frequency of the I.Q. test scores of the students in a selected post-high school occupational center. (See Table No. 12).

TABLE 12

DISTRIBUTION OF I.Q. SCORES

The following has a mean of 104.70 and a standard deviation of 14.20. Zero I.Q. are not included.

L-T (NV) IQ Interval	f.	c.f.	c.%
50 - 54	0	-	-
55 - 59	0	-	-
60 - 64	4	4	.4
65 - 69	7	11	1
70 - 74	9	20	2
75 - 79	20	40	4
80 - 84	31	71	8
85 - 89	56	127	14
90 - 94	81	208	23
95 - 99	103	311	34
100 - 104	125	436	48
105 - 109	131	567	63
110 - 114	104	671	74
115 - 119	92	763	85
120 - 124	64	827	92
125 - 129	43	870	96
130 - 134	26	896	99.3
135 - 139	5	901	99.8
140 - 144	1	902	100
145 - 149	0	-	-
150 - 154	0	-	-
	902		

Job placement and follow-up are an integral part of the evaluation of the program. Four good measures for follow-up are: 1) the types of positions held by graduates; 2) the progress which graduates make as they move from job to job; 3) the salary trends in relation to the number of years after graduation; 4) the success which graduates have when they transfer to traditional institutions to pursue work toward the baccalaureate degree.

Students need to be an integral part of the evaluation. In a recent evaluation by students in a selected post-high school institution they brought out important points as to relevancy of courses, the importance of counseling by the teacher, and the importance of the selection of a career. From the student's point of view perhaps a suggested high school curriculum of "occupational preparatory" would be just as much in order as the traditional "college preparatory" high school curriculum.

In another research project 3,725 seniors were asked to speak for themselves on the problem of teaching and teachers. What makes a good teacher? A composite picture of what they decided made a good teacher is demonstrated in Table No. 13.

TABLE 13

A COMPOSITE PICTURE OF A GOOD TEACHER

Reasons for "Teacher A" Being Best	Frequency of Mention	Rank
Is helpful with school work, explains lessons and assignments clearly and thoroughly, and uses examples in teaching	1950	1
Cheerful, happy, good natured, jolly, has a sense of humor, and can take a joke	1429	2
Human, friendly, companionable, "one of us"	1024	3
Interested in and understands pupils	937	4
Makes work interesting, creates a desire to work, makes class work a pleasure	805	5
Strict, has control of the class, commands respect	753	6
Impartial, shows no favoritism, has no "pets"	695	7
Not cross, crabby, grouchy, nagging, or sarcastic	613	8

Reasons for "Teacher A" Being Best	Frequency of Mention	Rank
"We learned the subject"	538	9
A pleasing personality	504	10
Patient, kindly, sympathetic	485	11
Fair in marking and grading, fair in giving examinations and tests	475	12
Fair and square in dealing with pupils, has good discipline	366	13
Requires that work be done properly and promptly, makes you work	364	14
Considerate of pupils' feelings in the presence of the class, courteous, makes you feel at ease	362	15
Knows the subject and knows how to put it over	357	16
Respects pupils' opinions, invites discussion in class	267	17
Not superior, aloof, "high hat," does not pretend to know everything	216	18
Assignments reasonable	199	19
Is reasonable, not too strict or "hard boiled"	191	20.5
Helpful with students' personal problems, including matters outside of class work	191	20.5
Dresses attractively, appropriately, neatly, and in good taste	146	22
Young	121	23
Work well planned, knows what class is to do	110	24
Enthusiastically interested in teaching	108	25
Gives students a fair chance to make up work	97	26
Homework assignments reasonable	96	27
Recognizes individual differences in ability	86	28

Reasons for "Teacher A" Being Best	Frequency of Mention	Rank
Frank, "straight from the shoulder," a straight shooter	78	29.5
Personally attractive, good-looking	78	29.5
Teaches more than the subject	74	31
Interested in school activities	68	32
Sticks to the subject	53	33
Modern	52	34
Sweet and gentle	50	35.5
Pleasing voice	50	35.5
Intelligent	42	37
Prompt and businesslike	41	38
Sincere	36	39
Knows more than the subject	32	40
Has pep	31	41
Uses good judgment	22	42
Cultured and refined	20	43

The level of occupational aspirations cherished by most students is related to: 1) the level of their vocational accomplishments; 2) their personal characteristics; 3) their family occupational pattern; 4) their abilities; 5) their education; 6) their earned income. Aspirations are a very important ingredient in helping formulate the motivational objective in occupational education.

TEACHING AND TEACHERS

What is teaching and what is a good teacher? Pullias and Young described teaching by comparing it with the ancient fable of the blind man and the elephant. One version goes like this: "A traveler from a far land brought a strange, almost unbelievable animal to the capital city. The traveler permitted the elephant, as it was called, to be seen for a price and the ancient city was full of rumors as to the nature of the animal. Fantastic and often contradictory reports came to the King. The King was curious to know the true nature of the strange beast, so he sent six of the wisest of the wise blind men of his court to investigate personally and report their findings to him. Each was to tell the King what the strange animal was most like. They went to the place where the elephant was kept and each in turn, beginning with the oldest, made his investigation. The first, in coming up to the elephant, felt his tail and concluded that he was most like a rope; the second caught a tusk and thought he was most like a spear; the third felt a quivering, moving ear and his conclusion was that this animal was most like a fan; the fourth came to the elephant's large and rough side and it was clear to him the beast was most like a wall; the fifth, approaching it somewhat differently, grasped a sturdy foreleg and promptly thought the elephant was like a tree; the last man felt the squirming trunk and it was evident to him that the animal was most like a snake. Each man made his mental notes and the group returned confidently a year later to the Palace to report to the waiting King. Beginning with the eldest each was asked to say what the elephant was most like. The oldest stated that the elephant was most like a rope and detail was given of his evidence, and so on through a spear, a fan, a wall, a tree, and a snake. The six wise men fell into loud and abusive argument among themselves. The searching King was baffled and amused. What, indeed, was the nature of this strange beast?"

In a sense we are like those blind men. We cannot hope to see teaching and the teacher in their full completeness. Now one phase comes into view or clear focus and then another. Like the blind man we are in danger of fastening upon one aspect and in our great need to find a simple answer we may contend ardently and eventually believe that one limited aspect is really the whole. Thus, a teacher tends to limit his teaching activities and his personality development in terms of his narrow conception of the nature of teaching and of the teacher. To him the elephant is like a rope and he strives to build his life in terms of his conception. The subtle psychological process probably accounts for the narrow stereotypes into which many teachers fall. If it has meaning, purpose, and a degree of structure, teaching as conceived here is essentially a means of guiding students in securing the amount and quality of experience which will promote the optimum development of their potential as human beings.

Nine general obstacles toward growth and excellence in teaching are listed as: 1) cynicism; 2) narrowness; 3) narrow role and purpose; 4) distorted conception of the nature of people; 5) clutter and crowdedness; 6) pedantry; 7) dullness or failure of imagination; 8) routine; 9) pace unsuited to temperament.

Dr. H. R. Mills of the British Council on Technical Education lists the virtues of the good instructor as 1) a man of purpose; 2) knowledgeable of his subject in class; 3) enthusiastic; 4) a good showman; 5) one who should be seen and heard; 6) one who possesses a dramatic sense; 7) a good timer; 8) a person whose mannerisms are important.

An instructor must utilize one of the basic objectives of motivation in the learning process. For example, interest that motivates students is aroused, encouraged, and maintained by a number of basic urges or desires. Some of these are listed in Table No. 14, and against each is shown a suggested way of using this desire as a motivator.

TABLE 14

THE LEARNING PROCESS

	Basic Desire	How Made to Serve as a Motivator
1.	Desire to qualify for higher grades or diplomas. Desire to earn more pay. Desire to 'get on' for the sake of a family or fiancee.	Show the purpose of the instruction, its worthwhileness, its importance to the trainee personally, and its relevance to examinations.
2.	Desire to 'make the grade' as a matter of self-esteem. To stand well in the esteem of others.	Progress-reporting, and by a proper use of rivalry and competition. Give individual attention.
3.	Desire of the artisan to do a job well, and to take a pride in his work.	Use all opportunities to illustrate and display work of special quality and craftsmanship. A proper distribution of praise and rewards. The teacher must be respected for this to be effective.
4.	Desire for the satisfaction of curiosity and of intellectual achievement, which makes a worthwhile subject intrinsically interesting.	Encourage the learners' curiosity and make use of the elements of realism and surprise. Use variety. Give opportunities for discovering things for themselves, and to look things up, e.g., use the library.
5.	Desire to express oneself and	Keep the class as active as

Basic Desire	How Made to Serve as a Motivator
to take an active part in the activities of a group.	possible. Use role playing and discussion method.
6. Natural desire to be as comfortable as one reasonably can when undergoing instruction.	Give proper attention to the physical comfort of the class and class morale generally.

As the teacher is really defined he becomes many things: a guide, a modernizer (bridge between generations), a model or example, a searcher, a counselor, a creator, an authority, an inspirer of vision, a doer of routine, a breaker of camp or mover-on, a story teller, an actor, a scene designer, a builder of community, a learner, a facer of reality, an emancipator, an evaluator, a conserver or one who redeems, a culminator, and finally a person.

TEACHING IN OCCUPATIONAL EDUCATION

Community colleges, technical institutes, universities, occupational training centers, and all other institutions offering technical, vocational, and semiprofessional programs are facing crucial problems in procuring a professionally qualified teaching staff. It has become obvious to the administrators afflicted with the task of locating and hiring technical and vocational teachers that collegiate teacher education programs are presently of little significance as the source. While NDEA and other technical and semiprofessional occupational programs have been implemented in increasing numbers, there has been a grossly inadequate parallel development in vocational and technical teacher education. A few universities and colleges have moved in the direction of designing teacher education programs in vocational and technical teaching areas, and baccalaureate programs in vocational and technical teaching areas. Baccalaureate programs and technical teaching are in operation at Oklahoma State University, the University of Illinois, Purdue University, and a few other institutions. The principal current sources of vocational-technical instructors apparently consist of competing technical institutions, industry, the military, members of non-teaching professions, and retired persons obtained from a variety of sources. Most new college graduates who enter vocational and technical teaching base their qualifications on education and experience and engineering or other disciplines or occupations closely related to the position accepted. These graduates as well as those recruited from other sources are seldom the products of organized vocational teacher education programs. It must be acknowledged that many competent instructional staff members have taken the above routes into vocational and technical teaching. However, it is also claimed that these routes of entry often, if not usually, fail to provide or emphasize some desired combination of professional and academic background, related occupational experience, technical confidence, and personal characteristics.

Accurate information concerning the demand for teachers of vocational and technical subjects is extremely difficult to obtain. Educated guesses, a number of telephone pleas for help in locating qualified staff, and similar empirical sources currently indicate more positions than qualified personnel. Lacking, however, is a recent assessment of present and projected needs by vocational and technical specialty. Faced with this lack the industrial educational department at Purdue recently undertook a survey of technical programs to ascertain teacher needs. The population for the survey consisted of all institutions listed in the directory of institutions offering vocational and technical training in the 1965-66 edition of *Technician Education Year Book*. A random sample of 108 institutions was selected from the 871 institutions listed. Ninety-eight institutions responded to the survey. This represents a 91 percent return. Table No. 15 summarizes the survey results for current technical teacher needs, one- and five-year projections of total staff needs for technical specialties listed by five or more institutions. The one-year vacancy listings give an indication of the current need, and probably reflect current staff availability as well as need. The five-year projection, however, gives us a look at the needs at a time when four-year graduates and technical teaching specialties will be ready for the job market. The need is real. The exceptionally high rate of return probably indicates the urgency of the staffing situation; the mandate is before us. We must take effective action to meet the staffing needs of institutions preparing technical specialists.

TABLE 15

CURRENT AND PROJECTED TECHNICAL TEACHER NEEDS

Technical Area	Current Vacancies	One Year Estimates (1968-69)	Five Year Estimates (1973-74)	Number of Institutions Listing Positions
Electricity/Electronics	263	303	453	70
Nursing	89	83	148	39
Mechanical	45	39	93	23
Scientific Data	39	41	105	31
Automotive	37	41	81	22
Agriculture-Related	28	39	85	33
Health-Related	27	31	81	31

Technical Area	Current Vacancies	One Year Estimates (1968-69)	Five Year Estimates (1973-74)	Number of Institutions Listing Positions
Drafting-Design	26	32	58	27
Civil	23	20	59	26
Secretarial	21	19	29	15
Industrial	19	25	52	18
Retail	18	29	39	20
Business Administration	16	24	28	14
Clerical	15	12	15	8
Machine Tool	14	12	19	14
Aeronautical	14	25	34	11
Chemical	14	13	19	8
Accounting	10	8	15	12
Welding	10	15	24	7
Food Management	9	8	13	10
Police-Fire	7	3	7	5
Child Care	6	7	22	5
Environmental Control	6	7	6	11
Metallurgy	4	12	16	6
Architectural	4	5	29	6
Instrumentation	2	6	11	7
Total Vacancies	766	859	1541	

The recent report of the advisory council on Vocational Education of the U. S. Department of Health, Education, and Welfare indicated that one measure of the size of the teacher education task is the number of teachers employed. It was not until 1965 that an unduplicated count of all vocational teachers was made. The number of teachers of vocational and technical education programs for the fiscal years 1964 through 1966 is included in Table No. 16. An analysis of pre-service teacher education programs indicated that approximately 30 percent of the teachers employed were enrolled in pre-service programs. A similar analysis indicated that approximately 30 percent of the teachers had been enrolled in in-service programs. Enrollments in teacher education programs in vocational-technical education for the fiscal years 1965 and 1966 are indicated in Table No. 17.

TABLE 16

NUMBER OF TEACHERS OF OCCUPATIONAL EDUCATION PROGRAMS

1964-66

Year	Number of Teachers
1964	85,102
1965	109,136
1966	124,042

TABLE 17

ENROLLMENTS IN TEACHER EDUCATION PROGRAMS IN OCCUPATIONAL EDUCATION

1965 AND 1966

Year	Total	Pre-service	In-service
1965	69,051	33,771	35,280
1966	77,091	38,774	38,317

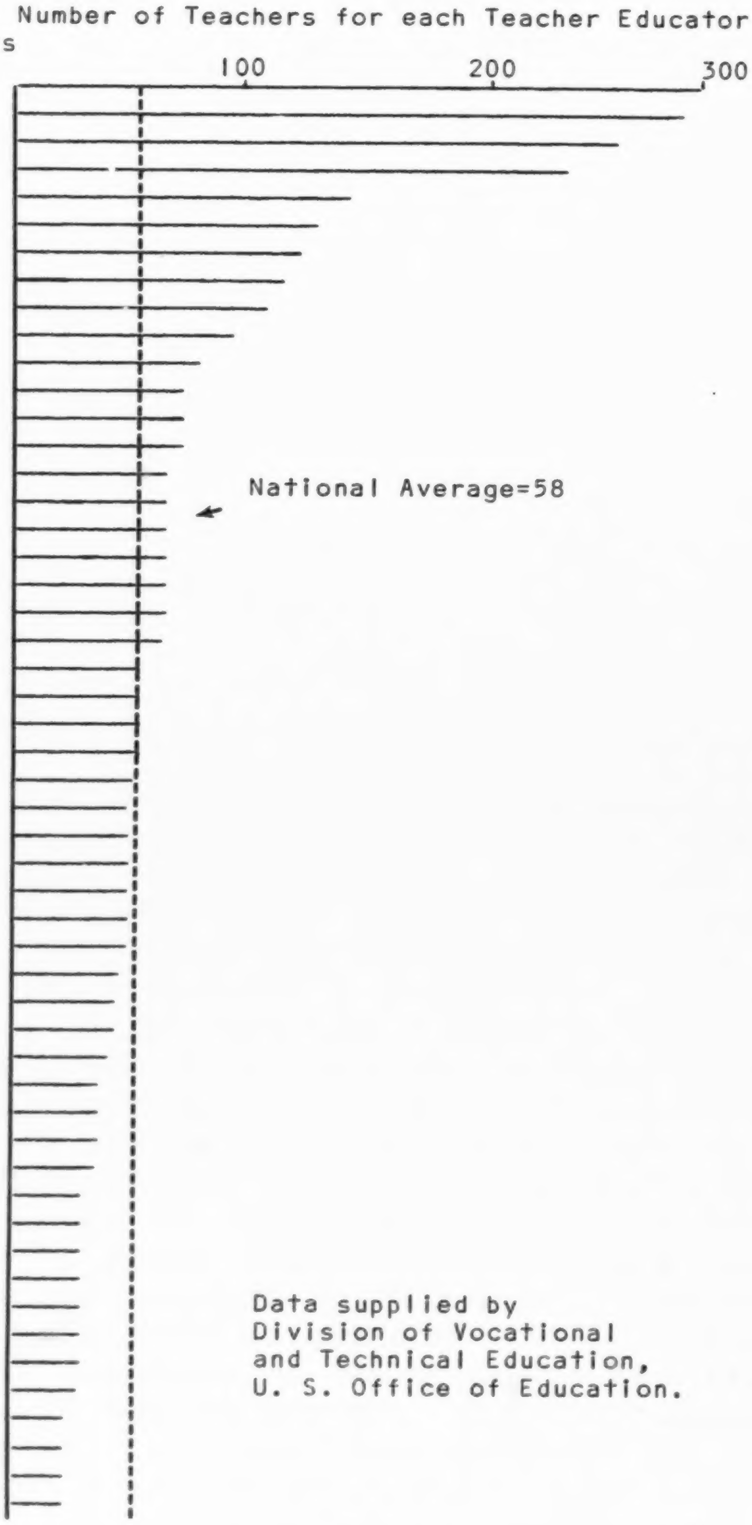
Despite the depth of concern for teacher education, little evidence can be found of similar concern for the persons who teach the teachers. Neither the federal acts nor the rules and regulations for the administration of vocational education provide any standards for the selection or preparation of teacher educators. Chart No. 6 indicates the number and distribution of teacher educators and the number of teachers per teacher educator in each of the states of the United States. Interpretation of Chart No. 6 is difficult because little is known about how each of the states interpreted the requirement of the reporting system which asked for the number of teacher educators, and because the actual practices of conducting teacher education vary widely, particularly in the areas of trade and industrial teacher education. Contemporary teacher education views the competent teacher from the standpoint of having three major aspects. 1) educational preparation in general; 2) technical or subject matter competency; 3) command of the practical application of the theory of teaching and learning. Emerging practices in teacher education show a positive movement toward increased flexibility with the maximum attention to individual teacher needs and in an environment of instructional media. Extension of teacher education in the new areas of in-service education and special programs for teachers of special groups are among the new challenges facing teacher education.

CHART 6

NUMBER OF OCCUPATIONAL TEACHERS PER TEACHER EDUCATOR

1966

	Total Number Teacher Educators
California	48
Georgia	12
North Carolina	24
District of Columbia	1
Florida	31
Alabama	18
Maryland	14
South Carolina	16
Arkansas	21
Ohio	46
Rhode Island	3
West Virginia	13
Alaska	2
Kansas	19
Tennessee	26
Montana	5
Vermont	5
Michigan	71
Texas	86
Colorado	25
South Dakota	7
New York	183
Illinois	66
Washington	63
Hawaii	7
Mississippi	25
Delaware	7
Connecticut	25
Maine	7
Oklahoma	26
Massachusetts	112
Louisiana	39
New Hampshire	5
Indiana	45
New Jersey	49
Iowa	48
Kentucky	38
Arizona	18
Nebraska	21
Idaho	13
Virginia	74
Wyoming	6
Nevada	12
North Dakota	17
Missouri	78
New Mexico	16
Oregon	51
Pennsylvania	189
Minnesota	117
Utah	34
Wisconsin	260



Data supplied by
Division of Vocational
and Technical Education,
U. S. Office of Education.

Adjustments in teacher education must take into account at least four major elements that have a significant bearing on the development of vocational and technical education.

1. Sources of Vocational Teachers

In some areas of vocational education prospective teachers are taught in a baccalaureate program the skills and knowledges appropriate for the occupational area. This background is frequently supplemented by some kind of work experience in the occupational area or in a related field. Teacher education programs of this type may need to search for persons who have already become established in the occupational field and encourage them to enter the field of teaching. In other areas of vocational education, teachers are selected from an occupational area and are certified for service by the state upon completion of the professional educational requirements on a postponement-of-requirements basis. The major criterion for selection is occupational competency based upon an analysis of a person's work experience or upon the completion of a comprehensive occupational examination, or both. In recent years projects have combined the work experience program with a baccalaureate degree program. Irrespective of the arrangements for selecting teachers, it is imperative that any present system be modified and made more flexible in order to enlarge the source area from which teachers are selected. An anticipated 150 percent increase in the number of teachers needed during the next decade makes it mandatory that states consider the solution of this problem through flexibility as a major priority.

2. Flexibility in State Certification

Increasing the scope of vocational education to include educational needs of a variety of disadvantaged groups such as poverty, hard-core unemployment, and the like and extending the range of occupations for which vocational education is provided will most certainly involve greater flexibility and changes in teacher certification arrangements. Such flexibility can be achieved without damaging desirable standards of excellence. The social and economic need for vocational education cannot be blocked by a rigidity that limits the field of choice of potential instructors who can really get at the heart and core of the problems at hand.

3. In-Service Teacher Education

Providing in-service education for vocational education teachers is one of the formidable problems facing vocational education in the future. Enrollment growth of vocational education, expansion in the numbers of occupations in groups to be served, and an environment of social, economic, and technological unrest and change all point to an imperative need for teacher upgrading in order that teachers may cope with the new situations. Leadership in the area of in-service education rests with the federal government, the states, and the local institutions. The state can become the most motivating force behind an imaginative in-service education program. The program should follow a constructive plan and should become a part of the regular effort in teacher education. Business and industry can also become a very strong partnership in this regard.

4. Selection and Upgrading of Teacher-Educators

One item that seems to be forever getting lost is concern for the plight of persons who carry the burden of quality in teacher education. The group is called teacher-educators. This group always is in short supply, as indicated earlier in Chart No. 6. So that the teacher-educator may be able to do his job, the teacher load must be reduced in order to make it possible for him to meet the needs of each individual teacher to whom he has been assigned. This is a problem of national concern requiring a massive effort and help that can be given by the federal as well as the state government.

The Summer Institute at Purdue University presented general guidelines which were assumed to permeate a total baccalaureate program for vocational and technical teachers. Guidelines were aimed at:

- a. Establishing a minimal teacher background similar to that of the prospective technical teacher's future students at graduation.
- b. Relating the teacher's occupational orientation to future job functions of the technical student.
- c. Focusing attention on a balance of theoretical and operational content. Six categories in technical content, mathematics, science, occupational experience, general education, and professional preparation were utilized as the framework in the Institute Program and in developing guidelines which emphasize the following:
    1. The acquisition of technical knowledge of greater depth and breadth than in courses likely to be taught;
    2. Mathematical and scientific knowledge appropriate to the technology level and emphasis in which it is to be taught;
    3. Appropriate occupational experience based on the needs of the technology, in some cases allowing the major portion to follow graduation from the teacher education program;

4. The ability of the technical teacher to communicate with students, his peers, educational administrators, and the public;

5. Electives and course selections from the social sciences as basic to becoming responsible, participating members of society;

6. An integrated sequence of professional content which focuses attention on the adult as a learner and includes an appropriate student teaching or internship experience.

The conclusions reached at the Purdue Summer Institute and Conference were that the guidelines were developed in full recognition that a variety of constraints, attitudes, and characteristics heavily influence the nature of any program in a given institution of higher education. Hence, the temptation to prescribe courses, teaching methods, time requirements, and other relatively specific inclusions was resisted. The need for an appropriate occupational orientation and a well integrated, balanced plan of course work and other activities is apparent in the guidelines. It is hoped that universities and colleges with no experience in technical program design will give adequate attention to these two factors when planning and implementing technical teacher education programs.

SUMMARY

The occupational competence required of most occupational institute instructors usually must be acquired through experience in industry. In addition to industrial experience many occupational institute instructors hold college degrees. In the occupational institute faculty member, however, personal qualities are more important than formal educational experience. For this reason, and because occupational institutes do not fit into traditional educational patterns, recruitment of instructors utilizes a variety of sources, such as college and secondary school facilities, industry, and the institute's own graduates. Very few institutions have begun a program of studies specifically designed to prepare graduates for teaching positions in occupational institutes. To bridge the gap between varied preparation of faculty applicants and the needs of occupational institute education, many institutes operate in-service training programs for faculty members. Occupational institutes have also been forced to prepare a considerable proportion of their own textbooks and teaching materials. Teaching loads in occupational institutes average higher than in colleges and universities partly because of the higher percentage of shop and laboratory work.

This position paper with its various approaches has clearly shown a need for better trained and more educational personnel in occupational education. Further, this paper has clearly identified the problems and the interest and attempts in the resolution of these problems. However, need and interest are only two sides of a three-sided triangle. The third side is community action and leadership by all of the educational institutions in cooperation with business and industry in response to the identified need and interest. Additional educational personnel in occupational education can only be provided through the existing organizations whether they be federal, state, local, or private. Action by these groups is typically in response to community pressures. Thus, the results of this conference must be distributed widely and combined with dynamic leadership to obtain the financial support that is necessary for any expansion of programs for educational personnel. Therefore, the next step must be translation of these results into action--a step which must be accomplished through a cooperative endeavor by all the agencies involved.

SOURCE MATERIALS

American Vocational Association. *Vocational Education, The Bridge Between Man and His Work, Summary and Recommendations adapted from the General Report of the Advisory Council on Vocational Education.* Washington, D. C.: Bureau of Research, 1968.

Barlow, Melvin L. *Vocational Education*, Chicago: The University of Chicago Press, National Society for the Study of Education, 1965.

Bartlett, Robert C. "Accreditation as It Relates To Technical-Vocational Programs in Institutions of Higher Learning," *The North Central Association Quarterly*, Volume XLII (Spring, 1968), pp. 312-316.

Mallows, E. W. N. *Teaching a Technology*. Johannesburg: Witwatersrand University Press, 1965.

Mills, H. R. *Teaching and Training: Techniques for Instructors*. London: MacMillan, 1967.

Pullias, Earl V., and Young, James D. *A Teacher Is Many Things*. Bloomington: Indiana University Press, 1968.

Ramsey, William L. "A Study of the Attitudes of College Professors In Relation to Educational Objectives" unpublished Ph.D. dissertation, Colorado State College, Greeley, Colorado, 1960.

Ramsey, William L. *Occupational Education Needs in Hancock County, West Virginia* (prepared for Hancock County Board of Education). Columbus, Ohio: Battelle Memorial Research Institute, 1968.

U. S. Department of Health, Education, and Welfare. *A Summer Institute for the Improvement of Technical Teacher Education Programs*. Lafayette, Indiana: Purdue University and Office of Education, Bureau of Research, 1967.

U. S. Department of Health, Education, and Welfare. *Vocational Education, The Bridge Between Man and His Work*. Washington, D. C.: Advisory Council on Vocational Education, 1968.

THE DEVELOPMENT OF PROFESSIONAL STAFF PERSONNEL FOR POST-SECONDARY VOCATIONAL-TECHNICAL EDUCATION

(FROM THE PERSPECTIVE OF HIGHER EDUCATION)

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The qualitative nature of work is changing, and it is incumbent upon the educational leadership of this country to realize that fact and to act upon it. No longer can human resources be wasted with the lavish hand of the egalitarian generalist who has structured the nation's educational system to serve the needs of the less than 15 percent of the school age population who ultimately achieve a degree in higher education.

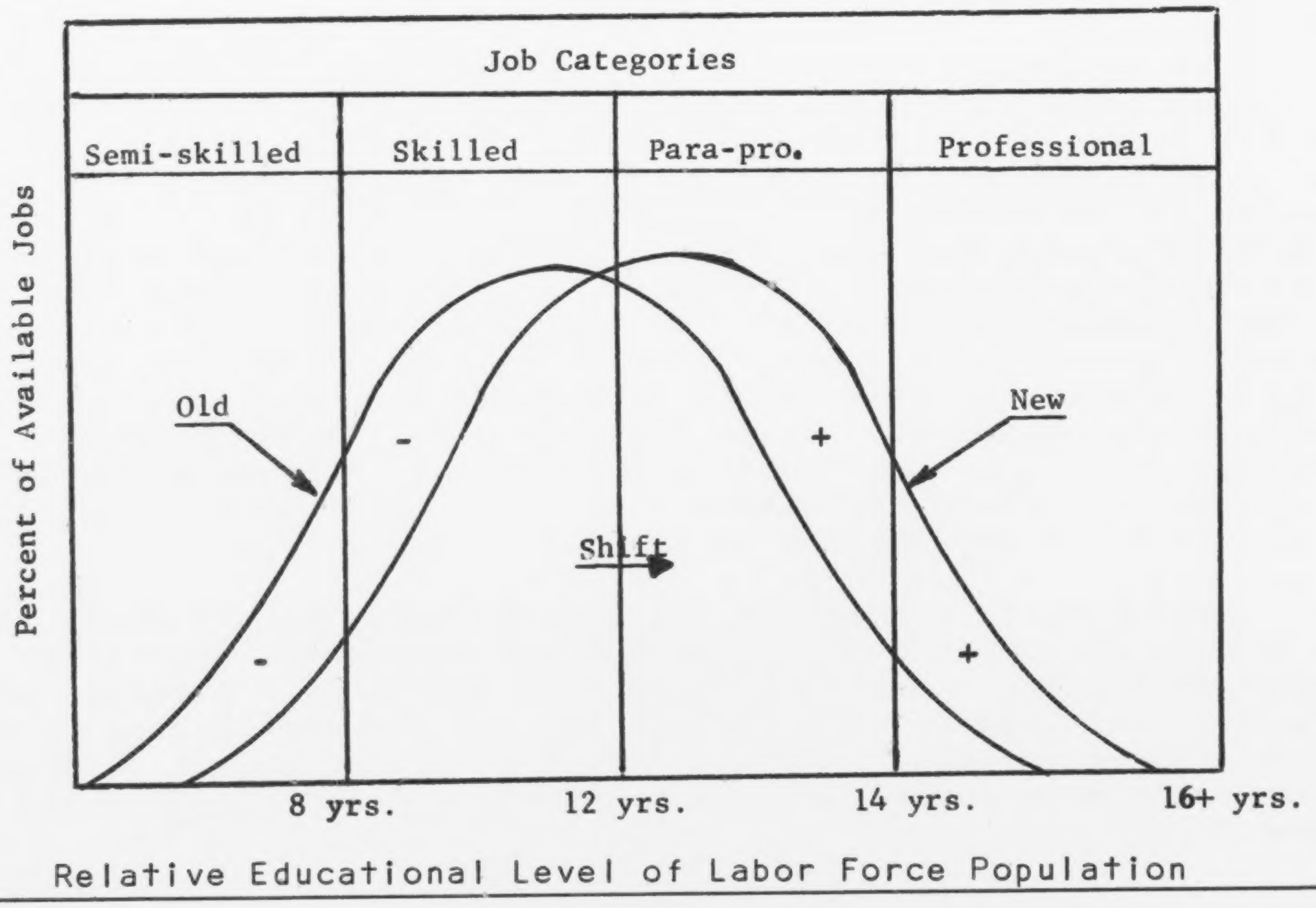
The impact of scientific developments upon the nature of business and industry has shown, in the words of Peter Drucker in his book, *An Age of Discontinuity*, "The way to produce more is to work smarter, not harder." From this proposition, we must derive an inevitable corollary; i.e., there will be an increasing number of career positions demanding higher levels of training for prospective employees. These emerging occupations fall into the paraprofessional categories. To industry, this means a baccalaureate is not required, but on the other hand, something considerably more than the high school diploma is a necessity in order to perform successfully. In the words of John Fisher of Columbia Teachers College, "The rapidity of change in job requirements and employment patterns now suggests that the most essential of all work skills is the ability to learn."

Most people, especially those past forty, can remember the days when an eighth grade education was considered more than adequate for most jobs which were then available. However, with the manpower demands of World War II, and the accelerated production efforts, coupled with the impact of technological developments, the more desirable jobs demanded 12 years of schooling. (See Figure 1)

A study of occupational trends and educational requirements, made by the Bureau of Labor Statistics and the Center for Study of Higher Education at the University of Michigan shows that in 1930, 58 percent of the Nation's occupations required grade school training or less; 32 percent required high school or vocational school education; and 10 percent, the college degree. The 1970 breakdown shows that, only six percent of the occupations require a grade school education; 26 percent, a high school or vocational school; 50 percent the associate degree; and 18 percent, the baccalaureate degree or above.

Figure 1 is a conceptual diagram showing the idealized population that constitutes our labor force as it is distributed through the occupational spectrum. The diagram attempts to show by superimposition the spectral shift to the right that results in depopulating the lower skill categories and puts a premium on the upper.

FIGURE I



The conclusion of World War II followed by the Cold War accelerated this phenomenon. Vast sums were being spent for national defense and the space programs. The technologies that emerged from these efforts began to supplant those of the proceeding three decades with which we were familiar. The production yield per man hour, aided by mechanization, automation, and the computer revolution began to skyrocket. Where previously the working force of business and industry had been supported by a relatively small staff of professionals, a middle area began to emerge and today is expanding more rapidly than that of the professional. It is, therefore, reasonable to assume that the preponderance of new jobs will be created in this area.

While in the past, industry has been forced to develop its own trained personnel, this practice has proven to be expensive; and the type of training was highly limited in terms of the total needs of the individual. Consequently, what better place in which to turn than the junior or community college that produces graduates of technology programs.

The junior colleges have been with us in a singularly unpretentious manner for over a century, and were regarded by most as a logical continuation of secondary education and a rung on the ladder towards a baccalaureate degree. The early thrust of such institutions was academic and they did not consider themselves terminal in nature nor occupationally oriented. Forces from the economic sector, in recent years, compelled post-secondary education into an introspective examination of its traditional role in light of the exigencies of the present. Occupational programs began to make substantive incursions into liberal arts oriented institutions to the point where a 1953 study revealed that 80 percent of the post-secondary occupational programs were contained in only five percent of the institutions. By 1969 however, the American Association of Junior Colleges' Directory showed that of the 993 public and private institutions, 818, or 82 percent, were offering occupational programs. It would be self-deluding to suppose that the educational leadership of the nation was motivated by the visionary qualities that the nation has every right to expect from professionals. Rather, the political pressure of public opinion compelled the community colleges which were, in the main public, financed to broaden and make truly comprehensive the number and variety of technical programs offered.

Our present sanguinary outlook, therefore, must be attributed to the pressure from the economy and the American Folk ethic which equates economic success with "a good education"; not as a result of long-range planning by the educational generalists.

Today we are witnessing a veritable explosion in this area with community colleges proliferating at the present rate of one per week nationally. Congress, reacting to the demands, provided limited funds for post-secondary occupational programs in the NDEA Act, the Vocational Act of 1963, and the Vocational Amendments of 1968. At the moment, Senator Harrison Williams of New Jersey, has legislation in committee that deals specifically with the needs of community colleges; and the administration is preparing another. By this time next year, a compromise bill will probably be in effect with, it is hoped, adequate funding.

FACULTY RESOURCES - PRESENT STATUS

In considering the problem of professional personnel staffing from an institutional point of view, i.e., that of the employing and supplier, it must be made clear at the outset the type of educational program contemplated. As hereinafter used, the term post-secondary occupational education refers to an open-ended associate degree program structured for students who are adequately prepared by a strong secondary educational program.

The foundation of a strong community college, comprehensive occupational program, as in all education, is the teacher. And if the foundation is weak an adequate educational structure cannot be built upon it. However, the problems of identifying and acquiring faculty are many. This is due to the fact that the demand is so great, the prospective professional finds himself in a strong seller's market.

In order to gain a perspective of the present status of faculty within post-secondary occupational programs, it is necessary to review the types of occupational categories and the number of faculty in each. An excellent source of information is the composite state plans required by the Vocational Amendments of 1968. These are presently on file in the United States Office of Education. The status of 48 state plans was reviewed on July 22, 1969[3] and forms the basis for the statistics that follow. The table in Figure 2 shows that there will be a demand, by 1974 for approximately 10,500 additional teachers in post-secondary occupational education, within public institutions. This constitutes an increase of 39 percent above the present level anticipated for 1970.

TECHNICAL EDUCATION

For the past 15 years, this field has expanded, and is continuing to grow at a phenomenal rate. Forty-four states report a total of 6,484 teachers in public post-secondary education.

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[3] Here, credit is given to Charles Buzzell of Rutgers University for his comprehensive review of State Plans.

FIGURE 2

Number of Teachers of Post-Secondary Vocational Education, Nationally

PROGRAM	1970 Number of Teachers	1970 States Reporting	1974 Number of Teachers	1974 States Reporting	Numerical Increase	Percent Increase
Agriculture Production	386	30	498	33	112	29
Agriculture Off-Farm	518	33	727	35	209	40.5
Distribution and Market	1,301	42	2,094	43	793	61
Home Econ. Con & Home	290	26	626	33	337	116
Home Econ. Gainful Emp.	400	33	1,042	34	642	160.5
Office	5,445	44	7,638	43	2,193	40
Public Service	128	23	335	24	207	162
Technical	6,484	44	8,896	44	2,412	37
Trades and Industry	7,118	42	8,844	42	1,726	24
Health	4,826	43	6,666	43	1,840	38
TOTALS	26,896		37,367		10,471	39 Avg.

SOURCE: U. S. Office of Education, State Plans for Vocational Education, 1969.

By 1974, there will be a need for 8,896; this constitutes a numerical increase of 2,412, an increase of 37 percent, and from the standpoint of sheer numbers, is the leading field of post-secondary occupational education. However, to put technical education in its proper perspective, it must be compared with the other occupational areas.

OFFICE EDUCATION

With the advent of the computer revolution and the availability of a wide variety of relatively inexpensive data processing equipment, a significant revolution in office education is occurring. There is however, considerable justification for the contention that the technology of computer operation transcends both the technical and office areas, with the consequent result that computer operators may find themselves in both fields. In the field of office education, the need for post-secondary teachers will raise from the present 5,445 to 7,638 by 1974 for a net increase of 2,193. This is an increase of 40 percent above the present level.

HEALTH EDUCATION

This area has historically been identified with post-secondary education and continues to grow both in size and number of program offerings. Within the next four years, an additional 1,840 teachers will be required or an increase of 38 percent above the present level of 4,826 to a projected 6,666. As in the case of office education, there is considerable smudging between health and technical particularly in such fields as medical electronics and radiology. When considering job descriptions in areas exclusive of technical education, it must be born in mind that many are arbitrarily assigned to other occupational areas more by their thrust rather than technical content.

TRADE AND INDUSTRIAL

This area, while it has traditionally been associated with secondary vocational area is rapidly expanding its dimensions and making incursions into post-secondary areas. Again, as in the preceeding occupational area, there may be considerable overlapping of job descriptions with the technical area. While the number of teachers at the post-secondary level is higher in this area than in any other category, 7,118, the projected 1974 demand of 8,844, is an increase of only 1,726 or 24 percent. This is considerably below the average total demand of 39 percent for all categories.

DISTRIBUTION AND MARKETING

This occupational area is occupying an increasingly larger proportion of post-secondary education and shows a growth rate of 61 percent over the next four years; this is well above the national average and reflects an increase of 800 teachers during that period. The field of distributive education in the private sector, has been marked by a growing trend towards professionalism in marketing and retail organizations. Most companies are currently demanding higher entry level skills than were heretofore required. This is due in part, no doubt, to the incursions of automatic inventory and billing techniques, through the use of electronic data processing.

HOME ECONOMICS

The figures in this field are broken down into two occupational areas; consumer and home economics; and gainful employment home economics. When examined as a composite, the growth of this field of post-secondary education is remarkable. The combined projected demand, shows that almost 1,000 new teachers will be needed by 1974. This represents an average increase of 142 percent above the present number employed.

AGRICULTURAL EDUCATION

As in the area of home economics, present trends within agricultural education can best be identified by dividing this field into two distinct areas, i.e., Agricultural Production, and Off-Farm Agriculture. This latter area appears to be growing at a substantial rate and shows a projected increase of 40.5 percent and a requirement of 209 additional teachers by 1974. As might be expected, however, Agricultural Production shows a growth rate of only 29 percent, well below the national average, with a total of 112 additional teachers required during the next four years. The explanation for this phenomena lies in the fact that more than two-thirds of the population of the United States lives on only two percent of the land while one-third lives on the remainder. Thus, metropolitan areas are gaining at the expense of rural at the rate of almost one million persons a year (American Association of Junior Colleges, "The Rural Community College," 1968).

PUBLIC SERVICE

With a condition of increasing affluence in the economic institution, and leisure time becoming greater, it is not surprising to find an increasing number of people turning to the service area for employment. While, in terms of actual numbers, this is the smallest of the occupational areas of greater significance in the projected growth rate of 162 percent, the largest of any of the previous fields. Within two decades, public service should be in the forefront of desirable occupational choices.

The total number of teachers in post-secondary occupational programs in the United States in 1970, will approach 27,000. They will be servicing more than 80,000 pupils, thus yielding an average pupil to teacher ratio of 30 to 1; a highly undesirable situation. But, it is upon this factor that the projected four-year teacher requirements of 37,400 is postulated. If the student to teacher ratio is reduced to a more desirable 20 to 1, then the number of teachers required must be increased by one-third. This means an additional 11,400 teachers beyond the figure projected by the composite state plans for vocational education, or indicates a total of 48,800 new teachers. This figure is probably a more realistic estimate of true needs than the linear projection of the state plans.

THE QUALITY OF PRESENT FACULTY

The exigencies of the rate of growth of the community college upon the administrators of those institutions have, in many instances, resulted in compromises that in other circumstances, might be unacceptable. But, if priorities must be established, than the first is that the prospective teacher must have an adequate, if not superior, knowledge of the subject matter.

An analysis of the faculty structure of Mercer County Community College of New Jersey, (Buzzell, 1968) which is rather typical, of the emerging two-year institution is quite revealing. The study shows that 35 percent of the faculty are engaged in occupational programs. While this figure may differ in other institutions, it appears to represent a fairly consistent ratio of occupational to non-occupational distribution of faculty. The 1969 directory, The American Association of Junior Colleges, lists the total faculty at the post-secondary level at 84,427. On this basis, there are presently more than 29,500 teachers in all post-secondary junior colleges both public and private.

The profile of the typical teacher of Mercer County Community College is as follows: He is male, 37 years old, an assistant professor, holds a masters degree, has had six years of teaching experience and five and one-half years of business or industrial experience. If the influence upon the statistics of the non-occupational teacher is disregarded, then the non-teaching experience is raised to 10 years, while the teaching experience drops to four and one-half years. The occupational teacher has slightly less than one publication to his credit and holds membership in three professional organizations while participating in two community activities. If he is in the commerce division, his median salary is $8,400. However, in the engineering technology division, he would be earning $9,650. These figures compare favorably with the median salary of $9,200 for the entire college.

Moreover, the average junior college faculty member holds a nine-month appointment with his institution and generally seeks either employment or study, during the summer months. There is, however, a growing tendency for more institutions to adopt the 12-month appointment for all professional staff members. There are considerable advantages to this type of arrangement. It is more attractive to teachers in the technical specialty areas in that it compares more favorably with commercial employment opportunities. Year-round employment permits staff members the time for study and new program development or the improvement of ongoing programs as well as facilitating summer programs.

SOURCES OF TEACHERS

The fundamental building block of education is the teacher in his classroom, but in the case of occupational educators who are not stamped from the same mold as the generalist, it is necessary to ask how they got there. Certainly, such people who must first be subject matter and skill oriented, are not the intentional products of educational curriculums specifically designed to staff the two-year institution. As was pointed out earlier in this paper, the critical need for professional staffing lies in the technical occupation specialties. In its bulletin, "Criteria for Technical Education," the United States Office of Education states:

> The graduates of high quality technical education programs, after having acquired suitable employment experience, and who have then continued their technical education to a professional level (Baccalaureate or beyond), frequently become excellent teachers in programs for technicians.

It requires no great insight to understand the cause of this phenomenon, since such teachers have been tempered in the fires of industry and have acquired the background for obtaining insight into the career objectives of the students they will be teaching.

Referring once again to the Mercer County Community College Study, it is noted that the professional staff comes from a wide variety of junior colleges, four-year colleges, universities and includes one non-degree granting institute. As previously noted, those teachers in the technical specialties had a mean work experience, prior to entering the teaching profession of almost nine years. Implicit in the magnitude of the nonacademic experience is the conclusion that such an individual, while obtaining his technical training, did not envision himself entering into the teaching profession. Therefore, he must have entered it largely by chance, rather than by predetermination. A cursory examination of the engineering course offerings of the four-year colleges and universities will show a total dearth of educational electives. Thus, the familiarity of the teacher, upon entering the two-year college, with the fundamentals of education may be assumed to be meager at best, or at worst, nonexistant. An exception to this pattern occurs when the prospective teacher pursues an advanced degree in education instead of his specialty, while he is still in industry. Unfortunately, the Mercer Study fails to reveal whether such interdisciplinary elements are found in the educational history of those teachers with graduate degrees.

Since the Mercer Study reveals a highly similar experience for teachers in both the commercial division and the engineering technology division, it can be assumed that they have similar histories.

While trade and industrial education is not taught in the Mercer College, the educational experience of many teachers in schools having such offerings is usually considerably divergent from those of their colleagues in other occupational programs. In the field of T & I, professional personnel frequently have extensive backgrounds in industry and frequently arrive in education through the back door. They usually acquire their skills and knowledge from secondary vocational schools, technical institutes and apprenticeship programs within industry. When individuals with this background enter into the teaching profession, they usually do so in area vocational-technical schools where certification is a requirement. Certification, in most states, requires two years of courses in education. Upon completion of the certification program, the teacher is usually encouraged to continue his education to the bachelor's degree. As a result of this process, his formal education is in the field of education itself.

ACADEMIC RESPECTABILITY

Whenever a new institution emerges from within the framework of an existing one, it is usually viewed with some suspicion, if not alarm, by its progenitor and consequently those within it frequently feel somewhat disenfranchised. When engaging in intimate conversation with their colleagues, one frequently hears the term "second class citizen" used to describe and evaluate their standing among their generalist peers. While such an appellation is unjustified, nonetheless, it still persists and can frequently be found to a certain extent in institutions of higher learning. The principal reason for this sensitivity on the part of occupational educators is that he finds himself a part of a minority group of specialists that entered education through the back door. Whatever the cause, that engenders such feelings of inferiority, the administrators of two-year institutions are duty-bound to set them to rest whenever they occur, lest they find themselves administering second-class institutions. Such a condition would be disasterous from the standpoint of recruiting potential teachers to fill the ever increasing demand. Understandably, good people would be deterred from entering into a profession in which they feel themselves and their students to be something other than a part of the elite or chosen few who intend to benefit by higher education.

PERSONAL CRITERIA FOR THE COMMUNITY COLLEGE TEACHER

In the days when the community college was known as the junior college, it was academically oriented and the question of the personal attributes and characteristics of the faculty was never of paramount concern; primarily because the college identified itself with higher education. Therefore, what was good for the four-year college and university was also good for the junior college. In today's labor market with the development of countless thousands of mechanical and middle management positions, there is a clear cut mandate for education through the associate degree level. In the 40-year time span from 1930 to 1970, the requirement for this particular part of the educational spectrum has risen from practically nothing to an estimated 50 percent. The historical demand for education through the thirteenth and fourteenth years, during this period, was not linear, but rather, exponential in nature, manifesting itself to the point where it became universally visible within the last 10 years. This movement will undoubtedly intensify in direct proportion to the rate of technological growth since technology has moved ahead faster within the past 50 years than the preceding 5,000.

If the rate of establishment of two-year post-secondary institutions proceeds apace with that of scientific development and the percentage of job opportunities available within business and industry, requires an increasing entry level education of the associate degree, it requires no great talent to predict that education through the fourteenth year will become the accepted norm for the nation. When this occurs, there will probably be a simultaneous political movement to make such education free and available to all.

In order to identify the personal qualities of the teachers for these institutions, it is necessary to examine the product with which they will be working. If a post-secondary education is to be a quality education, then it must be built upon a firm secondary education. Higher education, on the other hand, must maintain its own criteria and status within the overall spectrum. At present, our economy does not require that there be more than 15 percent of the labor force holding baccalaureate or advanced degrees. This percentage is gradually increasing, but not at the same rate as the demand for the associate degree. The two-year college must, therefore, face the fact that for the great majority of its students, formal student status will terminate.[4] Such considerations must, of necessity, play an important part in selecting the type of faculty in staffing such institutions.

A specific teacher type must be developed; clearly, one who is oriented and comfortable in the type of environment encountered in the community college. Since occupational programs are making deeper incursions into the program offerings of such institutions, the teacher must understand that, for most of his students, his will probably be the last formal instructional experience they receive prior to entering the labor market. This knowledge must engender a strong sense of responsibility, not only in the quality of his teaching, but also in his desire to foster within his students, the requisite personal attitudes and characteristics to function successfully in the world of work. Obviously, then, such an individual must be uniquely a post-secondary kind of teacher. He must be more sophisticated than his counterpart in secondary education, and be able to relate to the student at the young-adult age level.

EDUCATIONAL CRITERIA FOR THE COMMUNITY COLLEGE TEACHER

Unlike most public secondary schools, few states require certification as a criteria of eligibility to teach at the post-secondary level. As a result, the standards for educational attainment are left largely to the discretion of the hiring institution's administration. The rate of growth of such institutions causes the prospective teacher to find himself in a seller's market. This is particularly true in the engineering technology specialties as can readily be seen by comparing the median salary of such teachers, in the Mercer College Study, with those from the rest of the college. Nonetheless, there is an increasing tendency on the part of the administrators to place undue emphasis on the attainment of the masters degree within the specialty. If all things were equal, such a requirement might be realistic; however, certain factors militate against it. In the first instance, advanced degrees within technological areas tend to become increasingly specific. Courses at the post-secondary level--the ones for which such teachers will be responsible--are intended to provide the occupational student with a rather broad technical background in his subject area. This technical generalism is essential if the student is to have the best opportunity for employment within the spectrum of jobs in his area of study. If the course content must perforce be extremely general, then the teacher has little need for an advanced degree in a specific area of the discipline.

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[4] This is for different than terminal education. Education, hopefully, will proceed throughout the life of the individual with formal and informal opportunities provided.

An additional consideration lies in the magnitude of the salary differential between that paid by business and industry to professionals holding masters degrees with that currently being offered by the two-year institution. Unless altruistic motives can be established beyond reasonable doubt for teachers entering these institutions at the sacrifice of considerable earning power in the private sector, the professional competence of such a person must be held suspect.

Since the higher educational system is not presently geared to turn out the type of individual needed to staff the occupational programs in the two-year post-secondary school, it would seem clear that these institutions have little choice but to tap the resources of industry as best they may. Once having acquired the raw material, they have no choice except to establish educational development programs for their faculty in nearby colleges or universities. Following this model, the typical teacher would hold a baccalaureate in his occupational specialty, have a minimum of five years of diversified industrial experience, has entered at some low point in the faculty spectrum of the two-year institution and at that time, would enter into a part-time masters degree program in vocational-technical education. The employing institution might even consider arrangements with cooperating four-year colleges or universities to set up an ongoing oncampus educational program for such teachers.

EDUCATIONAL PROGRAM FOR THE COMMUNITY COLLEGE TEACHER

The post-secondary teacher is not so close to secondary education that he must be steeped in the minutia of educational fundamentals presently plaguing that part of the educational spectrum. Nor is he so far removed from it that he can afford to ignore all of the foundations of education and the basic principles of pedagogy. The fact he may have had a good, or even outstanding academic record in his specialty, and even a successful term within industry, is not guarantee that he will be an effective teacher. In all candor, the fact that he may successfully complete an advanced degree program in education, likewise, does not insure his effectiveness in the classroom. However, such a program will expose him to the principles and tools of his new trade--education. But, if he is ever to become the master teacher that his institution has a right to expect, it would seem obvious that education, as a discipline, must be studied.

A masters degree program in education must emphasize the following three areas.

FOUNDATIONS OF EDUCATION

The social and philosophical foundations of education are essential to the post-secondary teacher, if he is to understand himself in context with his institution. His role, as an educator, is the end product of two millenia of Western Civilization. He must be cognizant of where he is and how he got there and, by the process of extrapolation, in what direction he is heading. Further, he must be able to differentiate between diverse educational theories within our own and competing societies and the sociological forces responsible for our educational development along specific growth lines.

PEDAGOGY

While many may argue that this subject area is not as important within the institutions dealing with the age group under discussion as it is in the elementary schools, in a sense, it assumes new dimensions which have heretofore, gone unemplored. While the role of the junior college has traditionally been academically oriented, and it has considered itself a stepping stone in the ladder of higher education, the present comprehensiveness of this institution, particularly as it relates to the occupational area, has given birth to a new population of students with recognizable qualitative differences. Many questions arise that deal with the patterns of learning of young adults who are primarily work-oriented and who consider their current educational experience to be terminal at least from the standpoint of being full-time students. On the other hand, there are numerous adults seeking to reopen the educational door, who wish to avail themselves of courses of study similar to that provided for the young adult who has just left high school. In many instances, the same teacher will be expected to cope with both populations. He must be able to recognize and deal with differences between the two groups.

The fact that the teacher may have had a successful industrial career and knows his specialty well, is no guarantee that he will be able to present it in a cogent manner to his students. He must therefore, become familiar with the process of curriculum development and with the growing inventory of multi-media equipment for audio-visual presentations that can aid and reinforce his classroom presentations.

ADVANCE IN DISCIPLINE

Although the neophyte teacher may have had a more or less, protracted experience in business or industry, there is no assurance that it was, at once, broad and comprehensive. Within the masters program, there should occur a built-in experience that can be called an externship, in each individual's discipline in which he performs in a role or setting that is unique to his experience. The purpose of the externship requirement is twofold. First, it is intended to broaden his knowledge within his technical specialty and secondly, it should provide him with the opportunity to assimilate industrial attitudes, particularly as they apply to students within his future occupational responsibilities.

The rate at which technology changes, coupled with the probability that the teacher may have long been removed from formal academic contact with his discipline, may necessitate the inclusion of technical courses in his academic program. Such courses may be at the graduate or undergraduate level and, if the latter, should be recognized as legitimate credits towards his masters degree.

TECHNOLOGICAL UPDATING AS A CONTINUING PROCESS

Upon completion of the masters degree, the post-secondary teacher, from the viewpoint of his institution, is theoretically qualified in all respects and may be considered a master teacher.[5] The question arises regarding the mechanism to assure his continuing currency in his discipline. It was pointed out earlier, that technological development is proceeding at an accelerating pace. Half of the knowledge that man will need to know 10 years from now is not yet known. Paramount in the priorities of the employing institution is maintaining its faculty current. Yet, at the present time, there exists no institutionalized mechanism to guarantee that this will happen. Indeed, there are several factors that militate against it. As mentioned earlier, more and more institutions are advocating a 12-month contractual arrangement instead of the traditional nine-month, thus, the teachers no longer have the industrial resources available to them as before. Even under the traditional arrangement, when academic personnel entered into industry during the summer months, regardless of prostestations to the contrary, they did so, in the main, with the intent of increasing their earnings rather than to acquire technological updating.

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[5] Granted, this is an oversimplified statement which needs to be born out in practice.

The maintenance of disciplinary currency, if it is to be relevant, must contain the two essential ingredients of industrial practices and attitudes. Therefore, industry must play a key role in the continuing educational processes. The nature of the involvement was described in a study, commissioned by the U. S. Office of Education and performed by the Department of Vocational-Technical Education of Rutgers University in 1964.[6] The study envisioned 12 regional centers, each of which contained a complex of buildings specifically designed for the task of continuing dialog between industry and occupational education. In this center, pre-service and in-service teachers, drawn from the entire spectrum of occupational education would be exposed to the most recent developments and concepts within their field by means of a series of specially structured programs.

The Technology Resource Center, as presently conceived from a recently updated study, would embody three elements.

THE TECHNOLOGY FUNCTION

The technology building contains a series of laboratories, each of which is empty of permanent equipment, but contains highly versatile utilities. The laboratories differ one from the other in that each is able to accommodate a clearly identifiable spectrum of equipment and processes. The laboratories surround a central core that contains the most modern multi-media presentation facilities and audio-visual recording equipment.

Workshops, of varying lengths, would be set up to demonstrate a given process or piece of equipment to pre-service or in-service occupational teachers in whose occupational specialty the information would be of interest. These demonstrations would be conducted by industrial personnel on equipment loaned by industry for that purpose. The educators would have the opportunity to gain actual hands-on experience and, in addition, would have available to them the latest in motion picture or video tape recording equipment. Thus, they would be able to document their experience for subsequent curriculum development or enrichment. This same facility would provide the resources for the development of multi-media specialists. A permanent staff of such individuals would be responsible for recording the demonstrations and placing them in the library of the curriculum laboratory.

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[6] Office of Education Contract Number OE-5-85-043. "The Development of a Technology Resource Center." 1964. Available on microfiche through ERIC.

THE RESOURCE FUNCTION

The resource building is a facility for the utilization of the products of the adjacent technology building. Its primary purpose would be to develop materials and texts for occupational curriculums. The curriculum laboratory embodies two main functions: the curriculum library, complete with its reference texts, single concept films, motion pictures, still photographs, and video tape recordings; a completely equipped duplicating facility for the production of text materials, manuals and other training aids developed for the entire range of occupational courses.

THE COMPUTER CENTER

A major computer would be housed in the lower level of the resource building. Its primary purpose would be to provide computer assisted instruction programs to all occupational education institutions in the area with remote student terminals. We are witnessing the beginnings of a revolution in the tutorial process; for the first time, machines can be programmed to interact with humans to enhance the learning process. It is essential that master teachers of the future be able to cope with, and master, such advanced techniques.

In addition, the computer could be used to provide electronic data processing services to the same institutions who use it for instructional purposes and thus reduce administrative and overhead expenses. The computer facility itself would also be used for the training of operations personnel for the major computers found in business and industry.

The principal philosophy of the Technology Resource Center is to directly involve industry with education to insure that the relevancy of the occupational programs, influenced by this facility cannot be held in doubt. Facilities of this nature must be established in order to demonstrate to the economic sector the enormity of their own stake in the occupational educational process, and to render visible the efforts of occupational education in attempting to meet its responsibilities.

THE FINAL SOLUTION

If, as seems likely, post-secondary education becomes the norm or standard of the nation, then the career pattern of the typical teacher, as heretofore outlined, must become obsolete. An educational system in which the teacher is acquired largely by chance is clearly intolerable. Yet, this is precisely the mechanism currently in operation. Clearly, the four-year college and university must recognize the need for such teachers and structure their programs accordingly. The first of the career pattern elements to go will be the industrial or business experience. This may be unfortunate, but it seems inevitable.

Prospective post-secondary teachers must identify their calling at a much earlier age, preferably while still pursuing their undergraduate degree. Interdisciplinary programs of study must be devised that will result in a product acceptable to, and designed to function in post-secondary education. Such programs may take the form of an inter-college arrangement between the educational and technical schools within a university. Typically, such a program might well require five or even six years and result in a dual baccalaureate, one in a specific discipline and the other in education. Certainly, the planning of programs of this type should be started immediately to insure an adequate supply of teachers for post-secondary education. Higher education must rise to meet this challenge lest it be accused of abrogating its responsibility to the major sector of the educational spectrum.

EDUCATIONAL LEADERSHIP IN THE POST-SECONDARY INSTITUTION

As occupational programs in post-secondary schools begin to approach the status and respectability of the liberal arts, academic leadership must be identified and developed. There is no legitimate reason why top administrative posts in community colleges must always be occupied by those oriented to the humanities. Since there is a growing emphasis upon the employability of the student in the world of work, there are good reasons why occupationally oriented educators should make more substantial incursions into this select field. Foremost among such reason is that the occupational educator is more likely to understand the nature of the "real world" into which most of his charges will spend the rest of their lives.

There are three clearly identifiable areas for which a comprehensive doctoral program is required. The first is the supervisor or administrator who is responsible for establishing goals and the day-to-day operation of programs and facilities. The second is the college teacher, or the teacher of teachers, responsible for the training of teachers for post-secondary education. The third is the researcher, responsible for identifying new paths of learning and aiding in the establishment of priorities and goals.

An Ed.D. program for such individuals must be, on the one hand, comprehensive in nature and built upon a solid foundation of vocational-technical education and, on the other hand, it must be flexible enough to meet the career goals of the student. Unlike the externship program of the M.Ed., the internship is intended to place the doctoral candidate in a role within the kind of institutional setting in which he will be employed while pursuing his career and should be used to its maximum potential.

SUMMARY

Post-secondary occupational education is growing at such a rate so as to require almost 22,000 new teachers within the next four years.

Most occupational educators arrive in post-secondary education with a baccalaureate degree and considerable industrial experience. And it is far better to have an undergraduate degree with industrial experience than an advanced degree and no experience.

In order to compete with industry for talent, educational institutions must minimize salary differentials.

The occupational educator must be accorded the same respect as any other faculty member of a post-secondary institution.

The community college teacher must be sensitive to the goals of the age group whom he is teaching and must be able to foster requisite attitudes for the world of work.

While a masters degree in the teacher's discipline may be desirable, it is not as important as a degree in vocational-technical education, wherein he will study the foundations of education, pedagogy, and advance his knowledge in his own discipline.

A permanent interface must be established between business/industry and education in regional Technology-Resource Centers where pre-service and in-service occupational teachers will be kept current.

Universities must soon provide interdisciplinary programs between cooperating colleges or departments to produce "custom tailored" teachers for post-secondary educational institutions.

Comprehensive programs at the doctoral level must be initiated in vocational-technical education to develop administrators, college teachers, and researchers for positions of leadership in both post-secondary and higher education.

SOURCE MATERIALS

American Association of University Professors. "The Threat of Inflationary Erosion: The Annual Report on the Economic Status of the Profession, 1968-69." *A.A.U.P. Bulletin.* Washington, 1969.

Bogue, Jesse Parker. *The Community College.* New York: McGraw-Hill Book Company, 1950.

Buzzell, Charles. *Mercer County Community College: A Demographic Analysis of the Faculty for the Academic Year 1968-69.* Trenton, New Jersey, 1968.

Cohen, Arthur M., and Brawer, Florence B. "Measuring Faculty Performance." American Association of Junior Colleges. *Junior College Journal.* Washington, D. C., 1969.

Drucker, Peter. *An Age of Discontinuity.* New York and Evanston: Harper and Row Publishers, 1969.

Emphasis: Occupational Education in the Two-Year College. Washington: American Association of Junior Colleges, 1966.

Fibel, Lewis R. "Occupational Education in the Community College." Paper read at Vocational Education Seminar, Rutgers University, 1967.

Gillie, Angelo C. "Needed: A New Program of General Education for Ghetto Youth." *American Vocational Journal*, 1967.

Gleazer, Edmund J., Jr. "Occupational Education in the Two-Year College." *Junior College Journal.* Washington, D. C., 1966.

Graney, Maurice R. "The Technical Institute." Center for Applied Research in Education, Incorporated. New York, 1964.

Heim, Peggy, and Baumol, William. "Salary Structures in Public Junior Colleges Which Do Not Have the Usual Academic Ranks, 1965-66." *A.A.U.P. Journal.* December, 1966.

Johnston, Dennis F., and George R. Methee, "Labor Force Projections by States, 1970 and 1980." *Monthly Labor Review*, October 1966, pp. 1149-1152.

Pautler, Albert J., and Buzzell, Charles H. "Blazing a New Trail in the Training of T & I Teachers." *School Shop.* January 1969.

New Jersey State Plan for Vocational Education. Trenton, New Jersey. State Department of Education, Division of Vocational Education, 1969.

New Jersey Division of Vocational Education. "State Plan for Vocational Education: Part III." New Jersey State Department of Education, Trenton, New Jersey, 1969.

Pautler, Albert, and Schaefer, Carl J. "Review and Synthesis of Research in Trade and Industrial Education." Ohio State University, Columbus, Ohio, 1969.

Pautler, Albert J. "A Two-Year Pilot Program to Prepare Community College Graduates for Teaching Technical Education in the Secondary Schools of New Jersey." Unpublished paper, Rutgers University, 1969.

Rosenberg, Jerry M. *New Conceptions of Vocational-Technical Education.* New York: Teachers College Press, Columbia University, 1967.

Olivo, Thomas. "Community and Technical Colleges as Related to Vocational-Technical Centers." Paper presented at the technical conference of the Department of Public Instruction, Rehoboth Beach, Delaware, June 1969.

Shannon, Gail. "Terminal Programs in the Public Junior College." *Educational Research Bulletin*, Ohio University, 32, (January 1963), pp. 7-10.

United States Congress. House of Representatives Committee on Education and Labor. "A Compilation of Federal Education Laws." Government Printing Office, Washington, D. C., 1969.

United States Congress. House of Representatives Committee on Education and Labor. "Partnership for Learning and Earning Act of 1968," Hearings before General Subcommittee, 90th Congress, 20th Session on H. R., 15066. March 5-21, 1968.

United States Department of Health, Education and Welfare. "Digest of Educational Statistics." U. S. Government Printing Office, Washington, D. C., 1964.

United States Department of Health, Education and Welfare. "Criteria for Technical Education." Government Printing Office. Washington, D. C., 1968.

United States Department of Labor. "Manpower Report of the President." U. S. Government Printing Office, Washington, D. C., 1969.

United States Office of Education. "25 Technical Careers You Can Learn in 2 Years or Less." U. S. Government Printing Office, Washington, D. C., 1968.

DISCUSSION GROUP SUMMARY

NOVEMBER 6, THURSDAY:

I. CERTIFICATION:

The most frequent question raised concerning teacher certification was: Why should a teacher be required to have a baccalaureate degree to teach a skill? Many participants felt that certification regulations may tend to stifle an institution's ability to keep up with the changes which are frequent occurances in today's changing technological world, and that post-secondary institutions should not be inhibited by inflexible certification criteria. Many agreed that the certification process should be decentralized in order to make the local institution more responsive to the needs of the students, employment markets, and programs. It was suggested that the administrative body which has legal control over the institution should determine the qualifications of those to be employed. One group had complete agreement on the statement that "there be complete elimination of certification requirements on a statewide basis and the certification of teachers be the responsibility of the local chief school administrator."

License requirements and certification requirements may be unrealistic in terms of people available who meet these requirements (e.g., requiring an M.S. or B.S. in Nursing to teach Licensed Practical Nursing programs in some states). A question was raised as to whether people who have several years of practical-industrial or service experience should be given credit for this experience toward a bachelor's degree. Another question was, "Why must a teaching background and certification be dependent on degrees and courses?" "Is there no possibility for equivalency waivers here?" It was agreed that a work experience period should be required of a person to become a teacher in a technical field. However, experiences for teachers in preparation for certification must be relevant to what the teacher will be teaching.

Teacher certification may be an administrative convenience which hopefully designates a certified person as a better teacher than a person not meeting certification requirements. There needs to be more flexibility in the states' certification requirements to allow for teaching in programs for the disadvantaged as well as for teaching in the more sophisticated fields. University graduate faculties should be involved in the solution of this problem; because, to a certain degree, they influence certification and accreditation. Another approach to this problem is being taken in Florida where certification planning proposes the involvement of "consumer," secondary or other schools, in certifying both the entering teacher and the program of preparation through which he qualified.

Recommendations from teachers for certification requirements are as follows: 1) Bachelor's Degree, 2) education level commensurate with level of teaching, 3) occupational experience, 4) certain professional education courses. Possibly two levels of requirements for certification are necessary: one for people with previous professional experience, and one for those with only occupational experience. It was generally agreed that consortium effort among major groups (AAJC, AVA, ATEA, etc.) is necessary to effect national guidelines concerning the problem of certification.

II. RECRUITMENT AND SOURCES OF TEACHERS AND STAFF:

Occupational education must depend on colleges of engineering, nursing, architecture, etc., for teacher resources; this applies also for part-time teachers. Sources were listed as: 1) universities, 2) industry, 3) elementary teachers, 4) retired military or industrial personnel. Besides these, a great number of junior college teachers have come from high schools and have been actively recruited from that source.

Teacher recruitment is a national problem. There is great difficulty acquiring a good occupational education faculty. Many present certification standards and rules are inflexible, therefore recruitment of vocational-technical teachers is somewhat hampered. The recruitment of faculty for vocational-technical programs is diverse and does not lend itself to the setting up of regulations of wide scope and applicability. Another problem is that recruitment programs may have racial overtones. Descriptive brochures may show subtle shadings of people involved in various training programs where jobs considered menial, show black students; while programs for prestige jobs show white students.

It is important to recruit and employ people with the unique abilities they already possess as teachers and staff members. These people should be placed into the teaching job categories needed with a minimum of forcing the structure of presently established certification and job description patterns. Staffing problems may be partially solved if schools would require preservice training for everyone desiring to teach in that school; also, the use of part-time teachers would allow a supervisor to observe this part-time teacher and make recommendations concerning elevation to a full-time teaching position. Graduates of associate degree programs and four-year technical programs should be considered as potential faculty in vocational-technical education. Recruitment of people from certain ethnic groups might be valuable for teaching certain ethnic groups and in aiding recruitment of potential ethnic-group students. However, this may well not be valid in all cases. It was noted that recruitment at some colleges is aided by stipulation that an incoming staff member can move into the Master's level salary schedule, even though he does not have the degree, provided he does have his vocational certification.

III. THE IMAGE OF VOCATIONAL-TECHNICAL EDUCATION:

In the academic circle, vocational-technical education must accept itself as being essential, valuable and worthwhile. Instead of attempting to become like "them" (academicians), vocational-technical education personnel must establish their own identity. It is not necessary to react, in the form of apologies, for vocational-technical programs.

Image difficulties with vocational-technical education can be helped by faculty members participating in faculty matters--committees, senates, etc. Support from others outside the educational institution, such as industrial leaders, professional people, and civic organizations, can do much to enhance the vocational-technical image in the community. The Association of State Governments is becoming interested in occupational education, which could serve as another avenue of approach to image reconstruction.

IV. WHO SHALL BE SERVED?

Post-secondary education has a responsibility to prepare all persons not productively or satisfactorily engaged in gainful employment in society, both the unemployed and the underemployed. Law may require that everyone should be served who can profit from instruction. Although some schools offer courses in almost any subject area where there are interested students, most schools lack programs for at least one segment of society, the senior citizens.

New, less rigid approaches must be developed for attracting the disadvantaged. Post-secondary education must go to the disadvantaged, to bring them into the programs; it should work with and through other agencies to identify and influence potential enrollees among the disadvantaged. The disadvantaged should be enabled to recognize realistic aspirations; they should be permitted to discover for themselves--to say "I can't" is not satisfactory.

V. ACCOUNTABILITY:

The primary group to whom post-secondary vocational-technical education is accountable is the public, through the students being served. There is an obligation also to guide those who seek programs that vocational education does not and cannot organize, to other agencies who can supply appropriate programs. Accountability to advisory committees also is important. The make-up of the advisory committee should be varied, from management to trainees. Internal (within school) accountability should be instituted. The use of "user groups" (industry) to determine program content and effectiveness may not be as advisable as some think; industry's recommendations may not always be valid in that they sometimes tend to be narrowly directed toward specific employers.

VI. GENERAL RECOMMENDATIONS:

The following recommendations were suggested by the participants:

There is a need in vocational and technical education:

1. For a system of teacher evaluation so that the strengths and weaknesses of a teacher may be discerned. This could provide direction and guidance for continuing teacher education.

2. For the adoption of common, defined vocational-technical education terms.

3. For work experience (summer or other) as well as educational achievement to be a guide to placement and advancement on a salary scale.

4. For a vertically articulated program of vocational-technical education with the opportunities for student entrance and exit, with emphasis on economy of the students' time.

5. To have goals and purposes of post-secondary education in the U. S. clearly defined.

6. To have the community college act as a force to motivate political action.

7. To develop a comprehensive federal agency for administration of vocational education under the Department of Health, Education, and Welfare.

8. To bring state and federal legislatures into the planning stages of education and enlist their support for needed programs.

9. To provide, on a regular basis, in-service training to assist personnel to acquire new techniques and attitudes of areas of employment.

10. For a state plan for comprehensive development of vocational teacher educators with local in-service programs on a continuing basis.

11. To help the new instructor. This could be accomplished by a "buddy system"; that is, an established teacher working closely with the new teacher.

12. For junior colleges not to lose sight of their primary goal, that of training students for jobs.

13. For the institutions' faculties to be oriented in regard to the philosophy and goals of their institutions and be cognizant of the needs and characteristics of the student body.

14. To encourage the participation of industrial personnel on regional accrediting teams for vocational-technical education.

15. For the body that has legal control over the institution to determine the qualifications of those to be employed.

16. For more Master's degree programs which are directed toward the individual who teaches in post-secondary programs.

17. To develop programs of pre-service and in-service training in basic educational methods for all teaching personnel who have no formal training in teaching.

18. For differentiated staffing to be employed.

19. To prepare academic subject instructors who are teaching core subjects in full-time vocational and associate degree programs, to have a better empathy, understanding, and command of the practical application of the subject matter they are teaching as it relates to the various vocational-technical curricula.

20. For special institutions to be established and expanded through the Department of Health, Education, and Welfare (Education Professions Development Act) which allow teachers in specialized fields (e.g., two-year medical assistants) to continue their education and complete a baccalaureate degree.

PART II

POST-SECONDARY VOCATIONAL-TECHNICAL PROGRAM ORGANIZATIONAL STRUCTURE

CECIL C. TYRRELL

Broome Technical Community College
Binghamton, New York

It is a real pleasure for me to meet with you today and talk about the organizational structure of an institution which has for part of its responsibility post-secondary vocational-technical education. Instead of directing my discussion to such an institution with limited objectives, I will direct my paper to the organizational pattern of the comprehensive community college, which in my opinion, will be charged with the responsibility for a great deal of the post-high school occupational curricula of the future. It is my strong feeling that the well-known statements relative to the comprehensive high school made by James Conant, the former President of Harvard, apply to the need for a comprehensive community college.

In order to determine the organizational structure, let us examine the stated objectives of such an institution as I am discussing. I hope that you will forgive me if I use my own institution as the example, since I have seen it develop from zero to its present size and program.

OBJECTIVES

Basic concepts for the guidance of policy development for the scope of the program of Broome Technical Community College.

1. That it has a primary responsibility to offer curricula leading to the associate degree which will provide full-time programs for those high school graduates whose ability potential places them above the twenty-fifth percentile of the group.

   Where the demand exists, curricula should be developed to provide the theoretical or related and practical courses to offer those interested a challenging program of quality in needed vocational areas where others are not meeting the needs. These curricula need not lead to the associate degree, but rather a certificate of achievement upon completion of the program.

2. It should offer post-high school programs designed for those high school graduates who indicate a desire to achieve a level above their previously demonstrated ability and thus be eligible for admission into an associate degree program. We have been doing this for many years with our general studies program with most satisfying results.

This is a proven device for offering opportunity to the "late bloomer" without lowering the level and quality of the degree programs of the school.

This program is a major source of badly needed capable students for the career programs in engineering technology.

3. That it has a major function to promote the acceptance of and encourage student enrollment in the career programs preparing for entry positions in business and industry at the end of two years.

The curriculum of such programs should be organized and the courses designed to most effectively accomplish the objectives established for the program. However, the curriculum should be so designed, and of the proper quality, to provide the basis for continuing education in the field of the curriculum. Authorities who are viewing future individual needs point out the probability of two and sometimes more careers, for many persons.

4. That it has a parallel function to provide university-parallel curricula in engineering, liberal arts and sciences, business and in any other field which may evolve as the needs of the community are determined.

5. That it provide, within its capacity, service programs in the day sessions such as those presently offered for the hospital schools of nursing.

6. That it should offer a wide evening program with organized curricula of less than associate degree length leading to a diploma and, where the demand justifies, leading to the associate degree.

It should also offer a variety of courses providing continuing education for its own graduates and others in the community at a variety of levels.

7. That through its Continuing Education Division it should offer a variety of courses, seminars or conferences designed to meet special needs of area groups either on or off the college campus.

8. That the college should, as soon as feasible and as space will permit, develop a counseling center designed to work with the school officials and other concerned persons or groups in the area to meet the very important need for educational counseling. This is very important if the community college is to effectively serve the individual student.

Every precaution should be taken to insure quality regardless of the level and objectives of the organized curriculum. It is a sad observation that too many educators do not understand the difference between level and quality. It is my belief that one of the major handicaps to the acceptance of vocational education by parents and students is the failure to insist that quality performance be expected in all curricula regardless of the type or level of their objectives.

John Gardner put this in biting words when he observed that "if we do not insist on quality in our educational undertaking, whether they be for training philosophers or plumbers, neither our ideas nor our pipes will hold water."

In addition to the staff and laboratories required to accomplish the vocational objectives of the program, it is important to recognize the need for general education and offer it at the appropriate level for the type of students being served by the varied curricula. This type of curricula should include courses intended to improve the student's ability to communicate, and to understand the social order in which he will work. He should also understand the economy to which his productive effort will contribute and the basic concepts of the psychology of the worker himself and what makes his associates respond the way they do.

The New York State Legislature in 1946 passed the law creating five temporary institutes of applied arts and sciences. These were to be state financed post-secondary schools offering technical programs designed primarily to meet the needs of the community in which they were located.

The trustees of each Institute, appointed by the Governor in the summer of 1946, were charged with selecting a director and adopting curricula. After naming the director in August, immediate work was started to identify needed curricula, obtain and make ready space and equipment, and employ the necessary staff.

Research conducted by the State Education Department provided the necessary data for making recommendations relative to the needed curricula. Advisory committees for each proposed curricula were also invited to work with the staff of the Institute to determine the content of the curriculum and its level. The fact that IBM, Link Aviation and General Aniline and Film were located in the area and each employed a relatively large number of technicians resulted in the technology curricula being developed as broad basic programs in mechanical, electrical, and chemical technology.

To give an indication of the direction that the Institute would take, the education and experience of the leadership should be recorded:

1. The Director--B.S. and M.S. in Mechanical Engineering at Purdue University; four years industrial experience; ten years teaching mechanical engineering at the university level.

2. Head Electrical Technology department--Graduate of three-year Electrical Technology program, Rochester Institute of Technology; B.S. and M.S. Electrical Engineering at Clarkson Institute of Technology; one-year program Industrial Teacher Training, State Teachers College at Buffalo; several years industrial experience and teaching prior to and during World War II.

3. Head Chemical Technology--B.S. Metallurgical Engineering at Colorado School of Mines; several years industrial experience.

4. Assistant director for Extension Division and Registrar--Graduate Electrical Technology at Rochester Institute of Technology; one year Industrial Teacher program, Buffalo State College; several years experience as Journeyman Electrician; ten years teaching Vocational High School Program.

5. Head Mechanical Technology--Journeyman Toolmaker, served high level apprenticeship with General Electrical Company; B.S. in Mechanical Engineering at Pratt Institute; industrial experience and teaching experience in engineering.

6. General Studies faculty consisted of four people with extensive experience in high school English and social science, with interest in developing a program which would stimulate the interest and desire for such courses needed by individuals who will expect to have the foundation for growth in his chosen field of work. The traditional antagonism of technical students to such nontechnical courses became a challenge which all of us accepted with excellent results.

7. Office Assistant Curricula--The faculties of the two secretarial programs, Medical Office and Technical Office, included persons with the professional skills and experience needed by the curriculums. It was soon discovered that the technical secretarial program should make the shorthand optional. With this change in the technical secretarial program, it became interesting to a much larger number of men who soon demonstrated that they wanted a two-year business program.

8. Student Services--Since the number of students the first year were relatively small (more than 190), many of the student services were handled by staff members on a part-time basis:

Librarian--General Education Staff + one full-time clerk;
Admissions--Registrar + one part-time faculty + department chairmen;
Counseling--Department chairmen + registrar + assistant part-time faculty;
Advisers--All faculty;
Placement + Coordination of Co-op Program--Head Electrical Department.

9. Cooperative Work Requirement--As previously mentioned it was decided, with the cooperation and advice of our technical advisory committees, that a cooperative work program could be successful, and it was started in the spring of the first year of operation. Our Mechanical and Electrical Technology curricula still have a very successful cooperative work program and two three-month terms of co-op work are required for graduation. This requires two full calendar years consisting of six academic quarter terms and two cooperative work terms alternating with the in-school quarters during the middle year of the program. The number of students admitted to the Chemical Technology program, not being economically divisible by two, the cooperative work program was discontinued after several years of trial. The Chemical Technology program is continued but, in spite of almost unbelievable demand for its graduates, does not attract adequate numbers.

10. Development--The facilities for housing the school were of such size as to restrict our enrollment to 350 to 400, and since it was on a temporary experimental basis, the principle program changes were the addition of an Automotive Technology program and the expansion of the non-shorthand Business option primarily to meet the needs of men wanting a Business program. These were the only changes in this initial period.

The first class was graduated in 1949. The acceptance of this group by industry, business, and the medical profession was strong proof of the need for persons with the type of training offered by the school. Most of the 139 graduates were employed by local industry and business. Many are now holding responsible positions at the administrative level. Since the authority to award the associate degree was not available in New York State at that time, the two-year curricula graduates received a diploma from the Institute.

Legislation permitting the establishment of community colleges was passed by the 1948 New York State Legislature. This legislation requires one-third operational support by the local sponsor and 50 percent of capital costs, one-third of operation and 50 percent of capital costs by the state, and the remainder of operation from tuition. After much negotiation, on September 1, 1953, the college became a community college with Broome County as the local sponsor. The construction of a new campus was agreed to and action on a site selection was started immediately. In order to remind us of our responsibility to the occupational programs, we chose to have the term technical in the name of the college. Thus we are the only community college, other than Fashion Institute in New York City, to have the qualifying term in our title.

As we moved onto our new campus in the winter of 1956-57, we added a dental hygiene curriculum. Therefore we had two curricula in the medical field.

The pressure for a broader business program had produced a start by offering a major in accounting soon to be followed by a marketing-management program. A very successful engineering secretarial program had replaced the technical office curricula.

At about this time the college, along with two-year colleges in the state, was authorized to give the Associate in Applied Science and Associate in Arts degrees.

As we expanded the facilities on our new campus and as state legislation permitted, it was obvious that there was public demand for a transfer curriculum in engineering or engineering science. At that time no public college in the state outside of New York City offered a baccalaureate program in engineering, and it was decided to offer a program of the first two years of engineering science. The program has now developed to the point where two sections of freshmen were admitted this year. Because of the strength of mathematics and physics, the curriculum serves students majoring in physics as well as engineering. Engineering Science graduates are welcome transfers almost everywhere when they seek admission to the junior year.

Growing interest in the college as a developing comprehensive college and the desirability of additional transfer curricula in liberal arts and sciences and businesses led to the establishment of a liberal arts and sciences division and a transfer program in business administration. The business administration curriculum is common in the first year with the accounting and marketing management occupational curricula, a structure that permits the student freedom of choice as late as the end of the first year. The college was also authorized to give the Associate in Science degree and the engineering science and business administration programs lead to that degree.

Local and state needs for additional curricula in the medical field have led the college to develop curricula in x-ray technology and environmental health technology at the request of the state and our local sponsor. These curricula, together with Associate degree programs in Nursing, medical laboratory technology, and medical office assistant and medical record technology, are helping to fill the critical need for technicians in the medical field.

As the enrollment of the college has grown, it has developed a diversified range of curricula, and it has thus improved its ability to offer programs to the total group that the objectives identify as the upper 75 percent of the high school graduates. This is obviously a group with a wide variety of interests and abilities.

Another important need is an adequate student personnel organization with faculty support to provide counseling to insure that the student chooses the appropriate curriculum. This has been a high priority item and this year we have added a full-time person to handle placement and student transfer. He will continue to have the department chairmen, with their special training and experience in the needs of the occupational programs, assist him in the placement of each individual. We also expect to offer placement service to the alumni of the college.

The policy of the college has been to admit to the liberal arts curriculum only those persons who are believed to be capable of a full four-year B.A. and want such a program. Our reasoning here is that if he is not interested in and capable of attaining a bachelor's degree, he should undertake an occupational program that will assure him of vocational competency in a field in which he can earn a living.

It may be possible, and often is, for the student to discover that he wants a curriculum other than his original choice. To make this change possible, we must and do maintain an open-ended attitude toward each curriculum and the individual courses in it.

To better accommodate the needs of the community, the state and the students designated in our statement of objectives, we have increased the numbers of curricula particularly in the occupational areas. In engineering technology, we added civil technology to the original mechanical, electrical, and chemical technology curricula. All four have been accredited by the Engineer's Council for Professional Development. They were recently reinspected and their accreditation extended.

The business field has always been one of great interest, both for students and employers. Two occupational curricula, accounting and marketing management, lead to the Associate in Applied Science degree. So does the original engineering secretarial curriculum, and the executive secretarial option, which was added later. Thus, with the previously mentioned business administration program, we have four occupational and one transfer curricula in business.

Recently the college has been under pressure to add programs in the medical field. We have seven degree-granting occupational curricula including the original medical office assistant offering and are developing some pilot curricula to meet increasing requirements for licensure:

1. Medical office assistant
2. Medical record technology
3. Dental hygiene
4. Medical laboratory technology
5. Associate degree nursing
6. X-ray technology (pilot program for the state)
7. Environmental health technology (pilot program for the state)
8. Service to hospital schools of nursing.

These curricula require close cooperation with our five area hospitals and the local medical and dental associations. A large number of their staff are part-time lecturers on our faculty.

The entire November issue of the *County Medical Association* magazine will be devoted to the college and its medical curricula, an indication of the type of support the college enjoys from this profession. We expect to be asked to extend our activity further in this growing para-medical field.

I hope that this discussion demonstrates that a high quality comprehensive community college can be evolved from a technical institute with its limited objective of preparing students for employment immediately after graduation from two-year occupational curricula. The challenge of guiding such an evolution to include high quality programs that are within the ability range of the upper 75 percent of high school graduates is also obviously an obtainable goal.

To do this it was recognized that it would be necessary to develop a merit system and convince the staff that such a system could be administered fairly. Changing the mission of the college toward comprehensiveness created the need for a faculty with a wide variety of professional specialities. It also raised the complex problem of developing service courses by one instructional area for another. (See Appendix A)

It was soon obvious that the most economical and educationally sound way would be to have each service course taught by the department that specializes in giving that course. For example, the liberal arts division would be responsible for all of the English, the economics, the sociology, the psychology, etc. needed by other curricula, as well as the major courses of its own degree curriculum.

This then meant that the chemical technology department would teach the chemistry needed for each of the medical programs, the other engineering technology programs and the liberal arts curricula. Actually this resulted in a larger chemistry department and a greater variety of courses at a more reasonable cost than if we had two areas, one for the chemical technology and one for the service group. The same philosophy applies to the math-physics and to the bio-medical areas and active committees coordinating the service instruction see to it that the courses meet the needs of the curriculum served. A tendency is thus created to stimulate a demand for quality service courses capable of serving the need for which they are intended. Costs can be improved by having a chemistry sequence designed to serve several of the curricula needing a similar basic foundation in chemistry with teachers who understand and are eager to meet that need.

It was also demonstrated that if we were to be a college with a significant emphasis on quality, an esprit-de-corps was needed that would create an attitude among the teaching staff that their individual effort would be recognized and rewarded. We wanted some means of objectively evaluating each individual that would recognize more than credit hours and degrees. It was felt that some conformity to professional rank would help this feeling of recognition of growth and stature if some way could be developed to avoid that ridiculous requirement of a doctorate before becoming a full professor.

To do this, we devised what we call our Quality Point System. The basic philosophy of the scheme is that points are awarded for each item of preparation and experience that contributes to the individual's experience and background for the developing teacher in a comprehensive community college. This system recognizes business and industrial experience, professional licensure, teaching experience, and special sponsorship programs such as those of the National Science Foundation and Atomic Energy Commission. It encourages the individual to seek a variety of experience, particularly in his major field, by requiring that points earned for promotion be partly from other than college teaching experience.

It was recognized that such an objective system is inadequate unless accompanied by a subjective evaluation device. These systems, as we have developed them, are attached in Appendix B.

These systems have permitted us to have an academic rank program which treats all alike and permits the identification and reward of outstanding achievement in any instructional area of the college. It also has served as an effective device for eliminating any feeling of superiority on the part of one group of the faculty toward another. Instead we have a cohesive group sold on the mission of the comprehensive community college and proud to be a part of it. In spite of our being asked time after time why we do not become a four-year college, no experienced faculty member has time for such thoughts, so sold on our mission are they.

At the other end of the field is the misnamed concept of terminal education. We are firm that a great part of our mission is continuing education and under today's requirements no good education is terminal.

As indicated in our objectives, a major function of a community college is to provide a program for high school graduates who wish to continue their education on a part-time basis. In our case this program consists largely of preparatory courses similar to the general studies curriculum in our day program, which I shall discuss momentarily. This has been very much needed and well attended, as soon as the potential students understood the need for a good foundation in mathematics and physics and an ability to read and write effectively.

In our evening program, we have degree-granting curricula in the technical area and in business management. But because completion requires six to eight years or more, we also have a midway plateau in the form of an evening diploma. This takes three to four years to reach and gives the evening student a goal more readily completed than the long grind to the associate degree. Our experience, however, is that a great majority of those earning the diploma matriculate for the associate degree, for this seems to stimulate the desire to go the entire distance.

In addition to degree programs, the college offers continuing education courses designed to serve specific needs and interests providing the opportunity for many to continue their education perhaps in another field; or to obtain instruction on the computer; or for many of the graduates of the college to take a higher level of mathematics, physics or specialized technical offerings to aid their growth on the job.

Liberal arts courses are open to those interested in personal growth and as a basis for future full-time enrollment at the University Center or at the community college.

As in the day time, though perhaps with different objectives, the need for counseling is also felt by part-time students, especially those who are planning a career change as the result of their academic achievement. Selected faculty act as department coordinators and supply counseling service to aid the full-time division staff in making this much needed service available to the evening student.

In our effort to make the program of the college available to as many persons as possible, it was recognized that many potentially capable persons lacked the ability to read with understanding, write with clarity, and handle the basic mathematics required for entry into the curriculum of their choice. In our effort to create a realistic open door, it was decided to establish a general studies program in both the day and the evening.

The responsibility of the college to serve all of the people wanting the opportunity to try themselves in an educational program or to have an "open door" policy is implemented by the development of a general studies program. In the day program this is a one-year, full-time curriculum providing background work in mathematics, physical science, and English with careful counseling and corrective work in reading. The objective of the program is to give the student a sound foundation in those subjects which form the foundation for most college courses. It is also intended to provide the chance for the individual to prove for himself whether or not post-high school studies are within his ability and interest range.

This has been a very useful and effective undertaking, and because of it the open-door concept has been made real for many. With this program the college rejects almost no one. The student decides for himself whether he is willing to pay the price for the opportunity to " . . . become all he is capable of being."

Organizational structure of an evolving post-secondary comprehensive educational program.

1. The type of structure used will depend upon the size of the initial program. Many will need to start as indicated in Organizational Chart I. All of the necessary service should be achieved. To do this may require part-time assignment of teaching faculty to the student personnel function.

2. As the institution continues to grow, divisions should be organized for some curriculum areas and non-teaching full-time

people hired to carry on service activities. The highly specialized technical programs may continue to be better served with separate departments reporting directly to the Dean of the College or Dean of Instruction rather than to a Division Director.

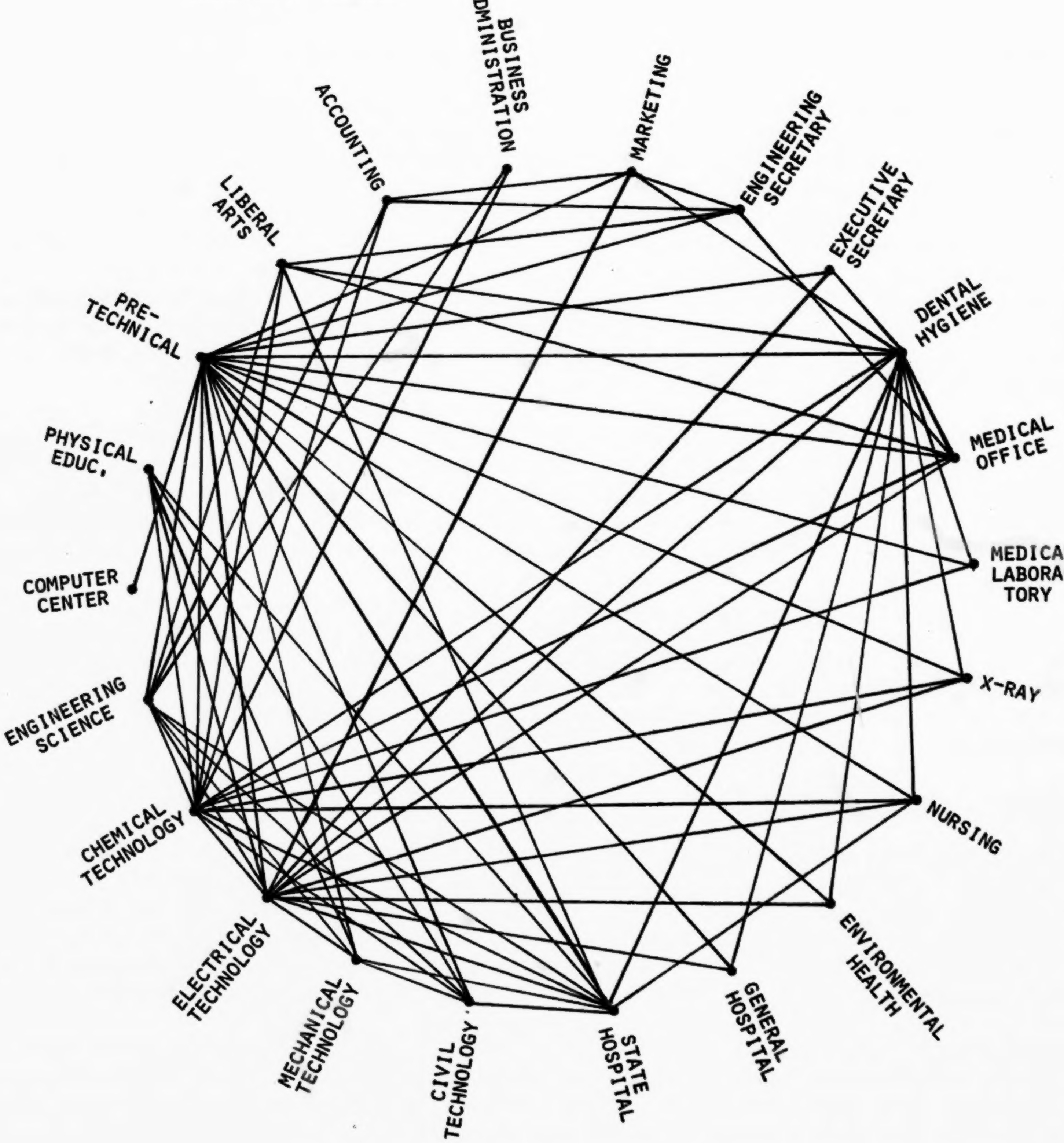
Such an organization is shown in Organizational Chart II. It should be noted that this has permitted the fast growing biomedical curriculum area and the large business and liberal arts to be organized with a divisional structure. This improves the communications potential by cutting down the number of persons reporting to the Dean of Instruction.

A further development of the organizational pattern is shown in Chart III. Here the Dean of the College is functioning as vice-president and the number of persons reporting to the Dean of Instruction is further reduced.

Different individuals will effect the relationship of one position to another in the organizational structure. It will decrease the maximum effectiveness of any organization if the total assests of each individual are not understood and used.

BROOME TECHNICAL
COMMUNITY COLLEGE

APPENDIX A


BUSINESS ADMINISTRATION
MARKETING
ENGINEERING SECRETARY
EXECUTIVE SECRETARY
DENTAL HYGIENE
MEDICAL OFFICE
MEDICAL LABORATORY
X-RAY
NURSING
ENVIRONMENTAL HEALTH
GENERAL HOSPITAL
STATE HOSPITAL
CIVIL TECHNOLOGY
MECHANICAL TECHNOLOGY
ELECTRICAL TECHNOLOGY
CHEMICAL TECHNOLOGY
ENGINEERING SCIENCE
COMPUTER CENTER
PHYSICAL EDUC.
PRE-TECHNICAL
LIBERAL ARTS
ACCOUNTING

APPENDIX B

Broome Technical Community College
Binghamton, New York

CRITERIA FOR APPOINTMENT AND PROMOTION OF FACULTY

The following professional qualifications are intended as a guide for the selection and development of the staff of the community college. Such a college has a need for a staff with a wide variety of backgrounds and experiences. Since it provides education in many of its curricula leading directly to employment in a specialized area of business or industry, its needs are different from those of the two-year college offering only university-parallel programs. Many of its teachers must have experience in the business or industrial application of their professional specialty if they are to be effective teachers of students expected to adjust quickly to work in these fields.

Much of the instruction offered is in the fields of science and technology where new knowledge is appearing at an increasing rate. Conventional educational programs are often not adequate to the needs of the teachers in these fields. Recognition must be given to new methods being used to provide for their needs.

Excellence is achieved in many ways by different individuals. Objective criteria specify some of the ways it may be achieved. However, any college or university must be free to employ as teachers, persons who have demonstrated outstanding achievement in their chosen professional field regardless of their formal education.

Recognition of Merit

An educational institution that is providing needed as well as excellent instruction is of inestimable value to a community. Excellent college instruction is possible when there is freedom to make material recognition of superior teaching. Therefore, it is of great and grave consequence that teachers, and especially good teachers, receive merited recognition and encouragement.

Furthermore, recognizing that teaching is an art and as such can best be evaluated by those whose experience has fitted them to recognize the abstract qualities associated with outstanding teaching, the following evaluation of faculty for purposes of appointment and promotion is prescribed:

1. Definitions of duties at each academic rank and the specific minimum requirements for promotion to an appointment initially

to that rank. Personnel record of individual relative to data pertinent to this evaluation is provided.

2. Description of and means of evaluation of other characteristics of quality essential for successful community college teaching.

Objective Faculty Specifications

It should be understood that teaching is an art. It must be evaluated as such. Competency in a field of specialization may be acquired in several ways. The Ph.D which is a common credential of the university professor is not an essential credential of the undergraduate teacher. It is aimed at a narrow specialized field of interest with much emphasis on research. The undergraduate teacher must have a broad understanding of his field with a deep interest in individuals. His effectiveness will be limited by spending a high proportion of his time in research in his specialized field. Persons at the Associate Professor rank and higher should have attained the Master's Degree or its equivalent in time spent in courses beyond the Bachelor's Degree, or in attaining the Professional Engineer's License, the C.P.A. or other similar indications of professional attainment. However, certain staff will attain this ability by industrial experience or self study and should not be denied professional advancement when this high ability as a teacher is clearly recognized by all who know them.

In order to recognize objectively the several ways that the formal academic preparation and experience may be obtained for preparation for successful teaching in a community college, the following quality point system is established:

Quality Point System

1. College semester credit hours quality point--One quality point will be awarded for each semester hour of college work satisfactorily completed that is appropriate to the needs of the College, if this work is beyond the highest degree attained by the individual.

2. Special courses--One point will be awarded for each week of National Science Foundation, Atomic Energy Commission, or other organized full-time programs appropriate to the needs of the College.

3. Experience:

1 year College level teaching	20
1 year Secondary level teaching	15
1 year Industrial or Business or other Professional	15
Summer of 8-10 weeks of Industrial, Business or teaching experience	up to 5

4. Earned Degrees:

Associate	70
Bachelor's	140
Master's	170
Doctorate	220

5. Professional License:

Professional Engineer, Architect or C.P.A.	30	With Bachelor's Degree
Dental Hygienist	10	
Nurse, Registered	10	

Description of Levels of Academic Rank and minimum educational and experience requirements for appointment to the rank, either by initial appointment or promotion:

1. Professor

Demonstrates expertness in his field. Teaches a variety of subjects. Develops curriculum and laboratory materials and facilities where required in a variety of areas. Assumes leadership in faculty matters outside of the classroom. Counsels junior members of the faculty.

Minimum Academic and Experience Requirements:

400 Quality points in any of the following ways:

A. Doctor's degree and 180 additional quality points

or

B. Master's degree and 230 additional quality points

or

C. Bachelor's degree and 260 additional quality points

2. Associate Professor

Teaches a variety of subjects. Develops curriculum in a limited number of subject areas. Develops laboratory material and facilities where required in the area of specialization. Contributes actively to faculty matters outside of the classroom.

Minimum Academic and Experience Requirements:

300 Quality points in any of the following ways:

A. Doctorate and 80 quality points

or
B. Master's degree and 130 quality points

or
C. Bachelor's degree and 160 quality points

3. Assistant Professor

Acts under general supervision of department chairman and advice of senior faculty. Teaches a variety of subjects. Assists as directed in development of curriculum. Participates in faculty matters outside of the classroom.

Minimum Academic and Experience Requirements:

220 Quality points in any of the following ways:

A. Doctorate

or
B. Master's degree and 50 quality points

or
C. Bachelor's degree and 80 quality points

4. Instructor

Acts under supervision of department chairman and counseling of senior faculty. Teaches limited number of subjects. Is undergoing a trial period to determine suitability for college teaching.

Minimum Academic and Experience Requirements:

140 Quality points in any of the following ways:

A. Master's degree

or
B. Bachelor's degree

or
C. Associate degree and 70 quality points and approved plan of study leading to a Bachelor's degree.

5. Assistant Instructor

Acts under the supervision of department chairman. Constructs and maintains instructional aids and equipment. Assists in the instruction in the laboratory or clinic under the supervision of the senior faculty member in charge.

Minimum Academic and Experience Requirements:

70 Quality points--Associate degree and approved plan of study leading to the Bachelor's degree.

CRITERIA FOR EXCELLENCE

The following professional qualifications are intended as a guide for the selection and development of the College staff complementary to the objectives of the College. It is recognized that competency in the many fields of specialization may be acquired in a variety of ways and thus would require that various criteria be considered for a total evaluation.

The basic responsibility of all faculty members is teaching and contributing to the total College program. The degree to which the faculty member meets these responsibilities can best be evaluated by his Department Chairman, Dean of the College, and College President. These are as follows:

1. Teaching the course to which the individual is assigned
    a. Motivation of students toward superior achievement.
    b. Ingenuity in presenting material.
    c. Plans material coverage consistent with course objectives.
    d. Use of instructional aids.
    e. Selection of problems appropriate to the general instructional curriculum area.
    f. Rapport maintained with students.
    g. Enthusiasm for subject.
2. Performing duties related to and supporting the educational program including:
    a. Course and curriculum development and revision.
    b. Selection of text and other supplies and equipment and preparation of instructional materials.
    c. Maintenance and development of laboratory facilities as assigned by the department chairman where such laboratories are part of the instructional program.
    d. Evaluation of student performance.

    e. Assistance and counseling of students outside of the classroom.

    f. Use and development of appropriate library and audio-visual resources.

3. Contributing to the whole program of the College

    3.1 Continuing to keep abreast of the changes in the professional field of specialization and contributing to the development in these fields by:

        a. Conduction of research and testing for business and industry where needed.

        b. Continued study toward advanced degrees.

        c. Additional study in special programs to meet the special needs of the field of specialization, such as those of the National Science Foundation and Atomic Energy Commission, etc.

        d. Continued contact with industry and business through tours and other forms of communication.

    3.2 Participation in the work of the Faculty Association and Senate which are the bodies through which the faculty act in the formulation of academic policy; serving on faculty committees.

    3.3 Acting as advisors to organized student groups and participating in student affairs.

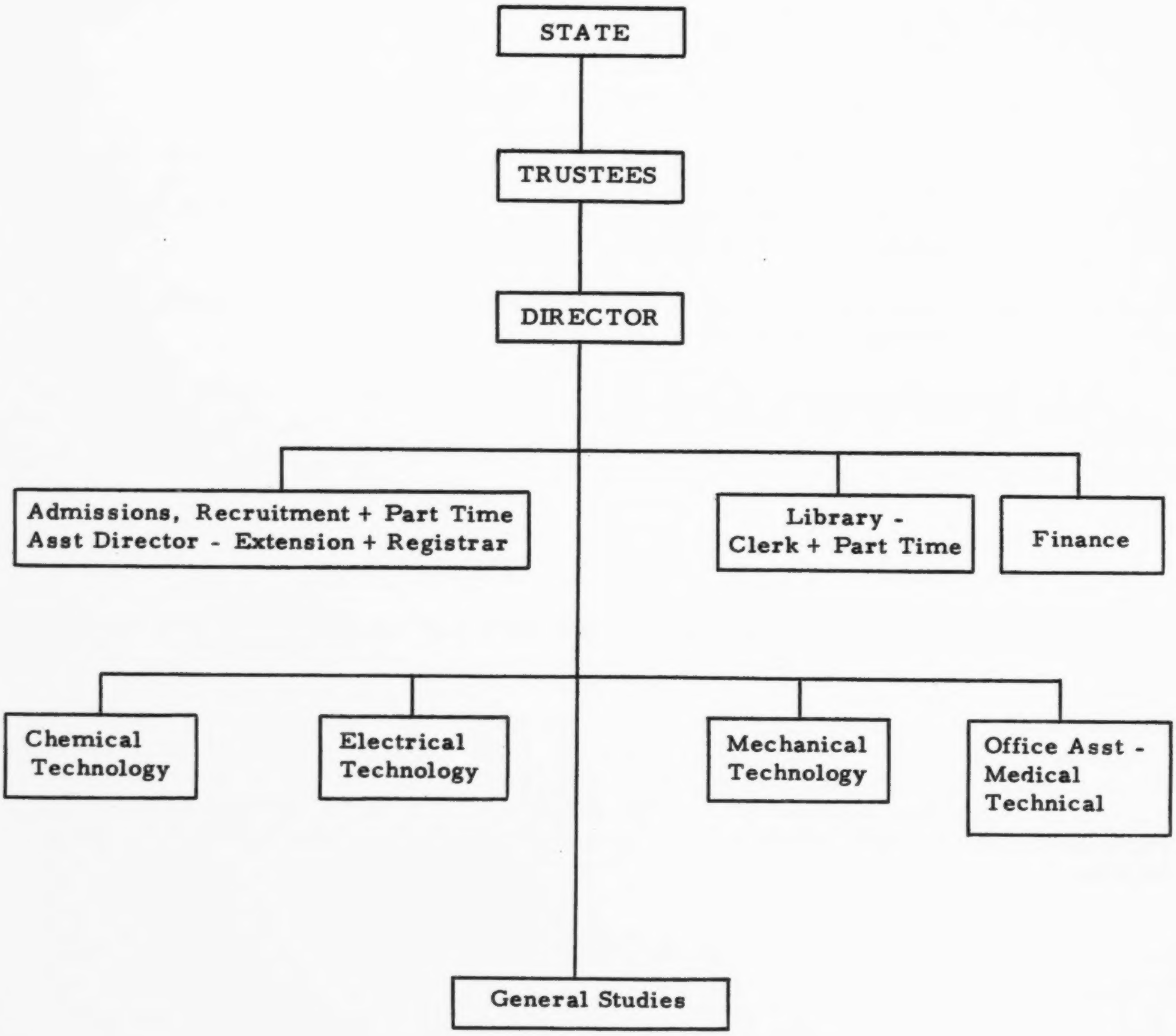
    3.4 Contributing to and participating in professional and community organizations.

To evaluate the above items an evaluative rating form is used (Addendum 2). This is completed by the individual faculty member, by his department chairman, and by the Dean, and forwarded with specific recommendations to the President. This procedure is a yearly part of the evaluation process for each professional staff member.

Adopted May 10, 1962
Retyped February 1969

CHART I

Original Organization
New York State Institute of Applied Arts & Sciences
Binghamton, New York

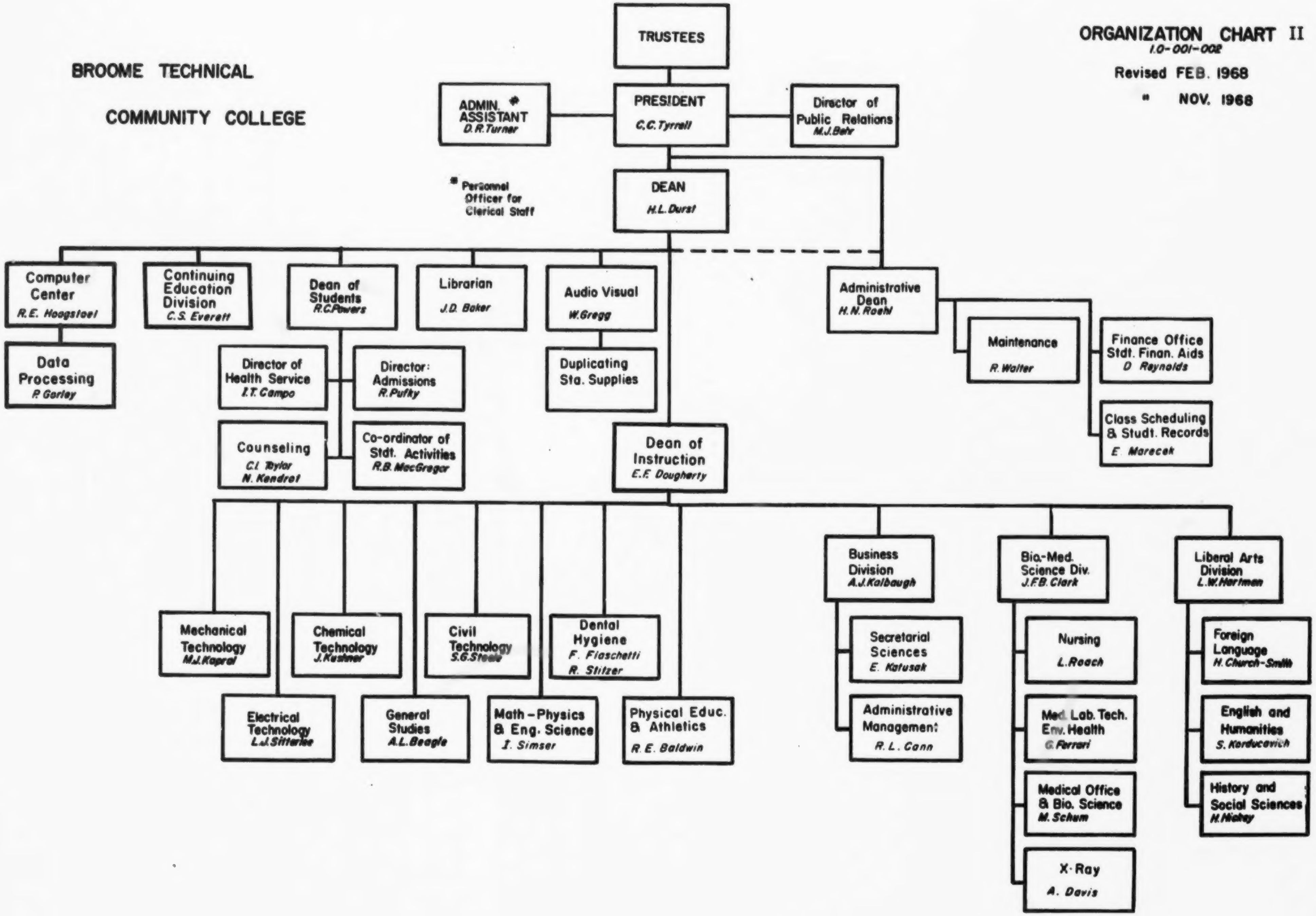

STATE
TRUSTEES
DIRECTOR
Admissions, Recruitment + Part Time Asst Director - Extension + Registrar
Library - Clerk + Part Time
Finance
Chemical Technology
Electrical Technology
Mechanical Technology
Office Asst - Medical Technical
General Studies

BROOME TECHNICAL COMMUNITY COLLEGE

ORGANIZATION CHART II

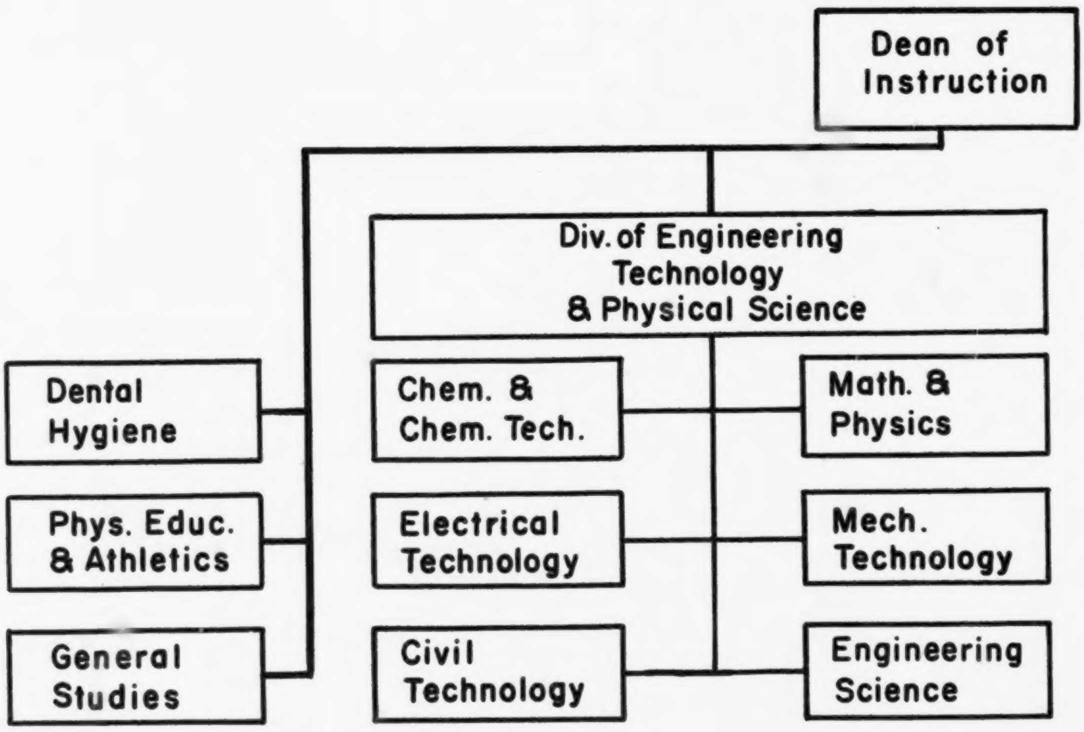
1.0-001-002

Revised FEB. 1968
" NOV. 1968


TRUSTEES
ADMIN. * ASSISTANT D.R.Turner
PRESIDENT C.C.Tyrrell
Director of Public Relations M.J.Behr
* Personnel Officer for Clerical Staff
DEAN H.L.Durst
Computer Center R.E. Hoogstoel
Data Processing P. Gorley
Continuing Education Division C.S. Everett
Dean of Students R.C.Powers
Director of Health Service I.T. Campo
Director: Admissions R.Pufky
Counseling C.I. Taylor N. Kendrot
Co-ordinator of Stdt. Activities R.B. MacGregor
Librarian J.D. Baker
Audio Visual W.Gregg
Duplicating Sta. Supplies
Administrative Dean H.N. Roehl
Maintenance R. Walter
Finance Office Stdt. Finan. Aids D. Reynolds
Class Scheduling & Studt. Records E. Marecek
Dean of Instruction E.F. Dougherty
Mechanical Technology M.J.Kapral
Electrical Technology L.J.Sitterlee
Chemical Technology J.Kushner
General Studies A.L.Beagle
Civil Technology S.G.Steele
Math-Physics & Eng. Science I. Simser
Dental Hygiene F. Fiaschetti R. Stilzer
Physical Educ. & Athletics R.E. Baldwin
Business Division A.J.Kalbaugh
Secretarial Sciences E. Katusak
Administrative Management R.L. Cann
Bio.-Med. Science Div. J.F.B. Clark
Nursing L.Roach
Med. Lab. Tech. Env. Health G.Ferrari
Medical Office & Bio. Science M. Schum
X-Ray A. Davis
Liberal Arts Division L.W.Hartman
Foreign Language H. Church-Smith
English and Humanities S. Korducavich
History and Social Sciences H.Mahy

ORGANIZATION CHART III

BROOME TECHNICAL COMMUNITY COLLEGE


Dean of Instruction
Div. of Engineering Technology & Physical Science
Dental Hygiene
Phys. Educ. & Athletics
General Studies
Chem. & Chem. Tech.
Electrical Technology
Civil Technology
Math. & Physics
Mech. Technology
Engineering Science

VOCATIONAL EDUCATION--OUR LAST REMAINING HOPE

Congressman ROMAN PUCINSKI

U. S. House of Representatives
Eleventh U. S. Congressional District
State of Illinois

For many years now I have stressed the need for developing what I call a "marketable skill" for each and every American.

Our nation cannot halt its technological progress, but those who have a voice in that progress can halt the outmoded training programs which too often prepare students for careers which are marginally productive at best or which have ceased to exist by the time they step out of the classroom and into the street.

The average unemployment rate among all young people between the ages of 16 and 19 is 22 percent for males and 24 percent for females. For black Americans, however, the rates increase sharply to 31 percent for males and an incredible 46 percent for females.

As our labor market expands, this ocean of available manpower expands as well. It is time we took a practical look at American education and appraised its actual effectiveness.

One measure of that educational system's effectiveness is the rapid growth of the dropout. It has been estimated that as many as 80 percent of those students who leave school before graduating have IQs in excess of 100. Their potential for success was never tapped in a classroom.

These youngsters did not come to school to fail. But the schools failed to offer them what they needed. They really aren't dropouts. Too often they are "push-outs"--youngsters who are tolerated until they reach the legal age to leave school and then are pushed out of the school system.

Vocational education can provide a coordinative mechanism whereby young people, in addition to learning the fundamental essentials in any good education, can also receive some practical preparation for the world outside the classroom.

Too many Americans--once hopeful students--have turned off and copped out altogether. Others find that their lack of skills condemns them to lives of desperation and despair. Eight and one-half million people in America receive some form of welfare payment. Twenty-two million people live beneath the minimum poverty income of $3,300 for a family of four. An additional 17 million people are eligible for assistance but receive no benefits of any kind.

Last year this nation spent $9 billion on welfare, half of it from the Federal Government and half from the States and local communities. Public assistance has grown phenomenally in the last 20 years. In 1950, we spent $2.3 billion on welfare, 95 percent of which consisted of direct cash payments to recipients, with five percent reserved for administrative expenses. This assistance had doubled by 1963 to $4.6 billion, 72 percent of which was spent in direct payments, 20 percent for medical care, and eight percent for administration and services.

This year we expect to spend $10.4 billion, 50 percent of which represents direct cash benefits, 40 percent for medical care, two percent for work-incentive programs, and eight percent for administration and services.

Under President Nixon's welfare revisions under consideration in the House Ways and Means Committee, much greater emphasis would be placed on work-incentive and manpower retraining programs. This particular aspect of the President's welfare reform proposals has the support of approximately 83 percent of American taxpayers, according to a national sampling published on October 18.

A report circulated last spring discussed the tragedy of increasing numbers of welfare recipients in America:

> Between 1959 and 1968, the increase in welfare caseloads nationally was 74.9%. But caseloads in the 10 States with the highest welfare benefits increased 148.7%, while caseloads in the 9 States and Puerto Rico with the lowest benefits increased only 11.1%. Similarly, the 10 high-pay States increased their share of the welfare dollar from 21.2% to 30.1% in the same period. The other 10 States decreased their share from 30.3% to 19.2%.

Poverty is not confined to cities. One person in eight who lives in an American city is poor. In the suburbs, one person in 15 is poor and unskilled. But it is the rural areas which suffer most, with estimates that one person in four lives at or below the poverty level because he hasn't the skill, the training, or the opportunity to improve his condition. This is why I am so determined to establish residential skill centers for the rural as well as urban area youngster.

Vocational and technical education, working concurrently at the elementary, secondary, and post-secondary levels, can and will provide the only sensible alternative to the repetitive cycle of welfare dependency we have fostered through decades of stubborn indifference to practical human needs. We are now paying the price for our heavy emphasis on the social sciences with practically no regard for the world of work in our school system. Vocational education logically must begin early in a student's school career and must be available to the adult American who needs retraining in the skills necessary to enable him to compete successfully in the job market.

Each year the Federal Government spends about $3 billion on all forms of manpower training programs. About half of that money is directly related to job training. In his recent Special Manpower Message, the President said:

> Manpower training is central to our commitment to aid the disadvantaged and to help people off welfare rolls and onto payrolls. Intelligently organized, it will save tax dollars now spent on welfare, increase revenues by widening the base of the taxpaying public--and most important--lift human beings into lives of greater dignity . . . But the Government's investment has failed to achieve its potential for many reasons, including duplication of effort, inflexible funding arrangements, and an endless ribbon of red tape.

One of my colleagues in the House of Representatives conducted an eight-month study of Federal assistance programs and found "at least 69 manpower training and vocational education programs" in operation throughout the Government. Clearly, this total lack of coordination, standardized criteria, and basic communication must not be perpetuated.

Differences in semantics and definitions aside, the major vocational training programs in effect at the present time are:

1. The Manpower Development and Training Act of 1962 (MDTA). This Act provides programs to retrain workers who have lost their jobs because of outmoded skills or technological improvements. MDTA was intended to prepare the large numbers of young people born during and immediately after World War II for productive careers.

The Act directed the Secretary of Labor to provide for the testing, counseling, and training of unemployed or underemployed workers, including 16-21 year old youths, and workers from farm families with less than $1,200 in annual family income. The Secretary was further directed to make an evaluation of the current and projected labor needs of the nation and to train workers to meet those needs.

Although MDTA programs are still of major consideration in any discussion of manpower training, they have been augmented and in many cases superseded by programs devised to assist specific groups of individuals.

2. The New Careers Program provides on-the-job training for sub-professional jobs in the fields of health, recreation, and community services.

3. The Neighborhood Youth Corps in-school and summer programs provide part-time work opportunities for disadvantaged youths, enabling them to continue their regular education.

4. The Concentrated Employment Program was established to serve areas of high unemployment in rural and urban areas.

5. The Work-Incentive Program provides job training to potential workers now receiving welfare assistance.

Private businesses and industry have greatly expanded their involvement in vocational education and manpower training and retraining. Their concern is reflected largely through the National Alliance of Businessmen which was created in 1968 to find 500,000 jobs for the hard-core unemployed in the Nation's 50 largest cities by June 30, 1971 through the Job Opportunity in the Business Sector (JOBS) program. This program reimburses each employer for his expenses in hiring and training disadvantaged men and women who want to work.

In my own city of Chicago, for example, the Chicago Alliance of Businessmen began in April of 1968 to place 11,000 hard-core unemployed individuals in jobs by July 1, 1969. The latest figures indicate that of the 17,251 people hired, 9,094 are still on the job--a retention rate of 52.7 percent.

The Alliance's second-year goal is to find jobs for 22,000 more disadvantaged unemployed by July 1, 1970. It is estimated that Chicago area businesses contributed more than a quarter of a million dollars in wages, services, and materials to the local program during its first year. The Federal Government contributed more than $13 million toward offsetting the added costs to employers of special training and counseling. These funds are available to any firm willing to enter into a contract with the Government.

The Chicago Alliance of Businessmen works closely with the State Employment Service, Jobs Now, the Tri-Faith Employment Project, the Chicago Urban League, Chicago Youth centers, Youth Action Project, and the Chicago Federation of Settlement Houses.

These smaller program efforts are nonetheless quite effective. For example, the Tri-Faith Project is considered one of the most successful ghetto-run employment projects in the nation. About 35,000 applicants are expected to seek jobs through Tri-Faith's six neighborhood centers this year.

The Chicago Federation of Settlement Houses actively recruits the hard-core unemployed and either finds jobs for them or helps them to secure the training or retraining they need.

The Illinois State Employment Service has been successful in persuading many employers to do away with written tests for applicants. ISES sponsors extensive training programs in close cooperation with the State Department of Education and utilizes public school buildings as training sites.

Job training is of increasing concerns in prisons and penal institutions through the nation. Federal money is used in Chicago's Cook County Jail, for instance, to prepare convicts--many of whom have never held a permanent job--for work on the outside.

The Special Impact Program provides economic incentives to business and industry to locate in areas of high unemployment and to hire and train the disadvantaged.

Each of these training programs, however, lacks a truly coordinative mechanism that can tie these multiple services together to reach even larger numbers of people with the help they need to participate in the labor market. In March of this year, the Manpower Administration in the Labor Department was reorganized "to consolidate the agencies that had fragmented responsibility for carrying out most of the Nation's manpower training programs."

At the present time, three major proposals are pending in Congress to make this consolidation effective. They are:

1. The Manpower Training Act of 1969 (H.R. 13472) introduced on behalf of the Administration by Congressman William Ayres of Ohio and in the Senate by Senator Jacob Javits of New York;

2. The Manpower Act (H.R. 11620) introduced by Congressman James O'Hara of Michigan and cosponsored by more than 100 Members of the House of Representatives; and

3. The Comprehensive Manpower Act (H.R. 10908) sponsored by Congressman William Steiger of Wisconsin.

Each of these bills would authorize programs for basic education, literacy, communications skills, counseling, testing, work evaluation and adjustment, health services, child day care, part-time work for students, relocation assistance, incentives to public and private employers to train eligible persons, and related services.

Each of these bills is directed at helping the unemployed to achieve a marketable skill.

Under the Administration bill, participants must be employed, underemployed with low income or otherwise disadvantaged, 16 years of age or older and not prepared for employment, or other persons designated by the Secretary of Labor.

The O'Hara bill focuses on the unemployed, with eligibility for program assistance reserved for anyone between the ages of 18 and 65 who is able and willing to work, but who has been out of work for five or more weeks or who has worked less than 35 hours a week for 10 weeks.

The Steiger bill concentrates on the unemployed and underemployed, with particular attention focused on persons from low-income families.

The Administration bill consolidates the manpower funding sources at the national level by providing what amounts to bloc grants to States in place of the many separate and diverse grants-in-aid now available. For a State to be eligible to receive funds under the Administration bill, it must set up a comprehensive manpower agency to administer, utilize, and monitor all manpower programs within the State. Communities within the state would each designate a local "Prime Sponsor" (which, under this bill, could be Chambers of Commerce) responsible for regional coordination and development of a community manpower plan.

The "Prime Sponsor" would funnel its program ideas to the State manpower agency, which in turn would develop plans for Federal funding based on these proposals in the various communities of the State. If approved by the Secretary of Labor, the Federal Government would grant the State a single bloc grant which the State manpower agency would then disburse to its communities.

The Steiger bill retains the same principle of local responsibility for development of specific plans tailored to the needs of the local community. But in this bill, the single State manpower agency would be required to be broadly representative with membership required from several agencies which have an influence on manpower programs--even though they are not directly responsible for them--such as education agencies, model cities agencies, and so forth. The Steiger bill designates no local manpower agency such as the Administration bill's "Prime Sponsor." All programs would be run directly by the State.

The O'Hara bill, on the other hand, retains full authority with the Secretary of Labor and there is no provision for community or State manpower planning agencies. Funds would flow directly from the Secretary to the local program sponsor, which might be a public or private agency or a private employer.

The Administration bill proposes setting up a National Computerized Job Bank to be established in each State and to be administered by the State Employment Service. The bank would assemble data on current job openings in a given geographical area to facilitate job placement.

The Steiger bill does not contain such a feature, but the O'Hara bill would set up a comprehensive system of labor market information, drawing on National, State, and local data, and for collecting job vacancy information and establishing a man-job matching system.

The most unique feature of the O'Hara bill is that it would authorize the Secretary of Labor "to contract with any Federal, State or local governmental agency, or with any nonprofit organization, to provide useful public service to unemployed persons." In other words, the Federal Government would become the employer of last resort for the unemployed. In effect, it would guarantee any eligible unemployed person a job.

Each of these measures focuses attention on the need to provide a legitimate opportunity for each and every American to work at a job that is useful, productive, and which gives him a generous measure of human dignity. I believe firmly that by the end of the 1970's, the overwhelming emphasis in vocational training will be nationwide exposure in high school to the practical world of work and manpower retraining programs at the post-secondary level.

Supporting and augmenting present manpower training programs are the Vocational Education Amendments of 1968 which provide a workable solution to the problem of acquainting all students with career preparation.

Dr. Claude M. Ury, a Member of the Presidential Task Force of Education, has said:

> The (Vocational Education) amendments create a viable framework to equip young people with skills they

> must possess if they are to secure adequate employment. The implementation of the legislation can prepare students with a sound basic education that can be used as a foundation for further education and training should they decide to continue their studies.

As Chairman of the General Education Subcommittee which had responsibility for writing these amendments, it was my intention to make the legislation as comprehensive and as adaptable to the needs of specific people in specific situations as possible.

The Act authorizes special programs and projects to make the transition from school to work less difficult.

There is provision made for acquainting children as early as the sixth grade level with career planning and preparation. The legislation makes provisions for guidance and counseling for students to enable them to become aware of the career opportunities that will be available after graduation.

Furthermore, special attention has been given to assure sufficient funding of programs for persons who either graduated from high school or who dropped out and are not able to devote their full time to study in preparation for today's labor market. Beginning in fiscal year 1970, 25 percent of each State's vocational education allotment in excess of its base allotment may be used to prepare these individuals for productive careers.

The Vocational Education amendments are designed to assist the States to expand their work-study programs which have proved to be remarkably effective in teaching young people to think constructively about their unique qualifications for the jobs available in the labor market. The Amendments provide special programs for individuals who are physically handicapped, or economically, socially, or academically disadvantaged. Assistance is provided to the States for the development of new and innovative programs such as prevocational orientation, updated skill training, and counseling.

The Amendments provide 100 percent Federal financing for the States to hire specialists to coordinate work-study programs as well as to reimburse employers for specific costs involved in on-the-job training. The Federal Government will also pay the cost of other services, such as transportation of youngsters who are enrolled or participating in these work-study programs. The Federal matching funds that will be available in fiscal year 1970 under the work-study program will increase from 75 percent to 80 percent, a substantial boon to States that are in severe financial straits owing to other budget demands.

This comprehensive legislation provides States and local education agencies with assistance for the development and dissemination of curricula materials that are more responsible to new, more technical, and infinitely more rewarding occupations.

In the course of 26 days of hearings, my subcommittee attempted to tailor this legislation to meet the real needs of students, professional educators, and the job market itself. One year after passage of this comprehensive measure, I remain convinced that vocational education at the elementary, secondary, and post-secondary levels is the most responsive legislative tool we have yet devised to break the impasse between vocational and academic educators.

Earlier this month, the Board of Education of the City of New York announced that beginnning in 1973, a single diploma will be offered as part of a comprehensive blending of vocational and academic courses in the city's high schools. At present five separate diplomas are offered in the city schools. The Board of Education said that the new plan would require each high school student to take at least a year of "practical arts," such as vocational or clerical training, and pass either the State Regents test or the citywide examinations in American history, world backgrounds, and English to qualify for the diploma.

This constructive and highly innovative approach to developing a common educational experience for all students, whether or not they will seek higher education, will insure a richer future for all the participants as adults.

Vocational education has been the stepchild of American education for too long. This can be true no longer. Our technology has made imperative demands on the labor market, demands which can be met only through adequate preparation and planning.

With a multi-faceted approach to the problems of vocational education at the elementary, secondary, and post-secondary levels, the Federal Government in cooperation with State Education and State Employment agencies and private industry can help to insure that every American has a genuine opportunity to develop his skills to his fullest potential.

Job opportunities for the unskilled are vanishing with the outmoded relics of an earlier age. But the labor shortage of skilled workers is acute and becoming more serious each year. Industry estimates that it now takes more than 300,000 skilled workers each year merely to replace those who retire. It takes at least six skilled craftsmen to support or augment the work of every single scientist or engineer in this nation.

A new decade begins within two months. In 1970 alone, business and industry will require 27 percent more trained clerical and sales personnel, 25 percent more service workers, and 24 percent more skilled workers of all kinds.

There are no opportunities for the unskilled in our society--only sentences.

At present, the Federal Government is investing $14 in higher education for every $1 it invests in vocational education. Yet more than 60 percent of the 52 million American students in elementary and secondary schools today will not go on to college. By 1980, only 20 percent of the job opportunities will require a four-year college degree.

Health, Education, and Welfare Secretary Robert Finch and Commissioner of Education James Allen, as well as countless reputable citizens who are interested in the relevant evolution of American education, have emphasized the advantages of a comprehensive vocational education and manpower retraining program for the country. The success of vocational training depends now upon the willingness of State and local education and employment agencies to cooperate in bringing this experience and the practical realities of the job market to every American.

The First Annual Report of the National Advisory Council on Vocational Education said:

> All students must be allowed to move into and out of vocational-technical programs and to select mixtures of vocational-technical and academic courses. Students should be released from school to acquire employment experience, and should then be taken back for further education. Students should be able to go to school the year around . . . Vocational and technical programs should be readily available to most adults through adult high school and community colleges . . . Changes in the elementary curriculum are also needed. Exploration of the world of work should begin early. Respect for work and pride of workmanship are essential in a trillion-dollar economy . . . If the Federal Government will substantially support the additional cost of educating youth for employment, we believe that the financial, personal, and social costs of unemployment can be dramatically reduced.

I support these recommendations and add further my sincere judgment that it is only through a prompt consolidation of vocational education and manpower training programs within the State Department of Vocational Education that we will achieve the effective coordination of genuine career opportunities for every

American who has the physical and mental capacity to contribute to his society.

It will only serve to continue fragmentation of our resources if we treat vocational education and manpower training as separate entities.

Our national goal should be to make education--career education--so thoroughly effective that future generations won't need manpower training when students become adults except to upgrade their skills.

Manpower training, at best, should be treated as a temporary phenomenon to meet existing needs. It should be prepared to be phased into the comprehensive vocational education program of each State as quickly as possible.

To be thoroughly effective, career education must begin at the earliest level and should be administered by a single State agency--the State Department of Vocational Education.

There can be no greater test of our civilization or our government than our willingness to provide this climate of opportunity--now.

DISCUSSION GROUP SUMMARY

NOVEMBER 7, FRIDAY:

I. OCCUPATIONAL CHOICE:

Educational institutions must recognize the individual needs of students; particularly in the area of occupational choice. Even though students are pressured from early life through high school to make occupational choices, exploratory work is still desirable for the student. Decisions can only be made, however, when there is an opportunity to make them. The environment must be conducive to the decision-making process, and we must allow, in the educational system opportunity for a student to change a decision, once made. Alternatives must be presented and must be capable of being "weighed." For this reason, information programs beginning in the elementary school are specifically recommended. Ultimately, the individual must make his own decision, which should not be one based upon administrative expediency. The technical schools should adjust their programs to the needs of the student, rather than the needs of the administrators.

There is a need for coordination among various school departments. Often, those in administrative positions are too academically-oriented. When people in positions of authority are more occupationally-oriented, coordination and communication may be increased.

II. INSTITUTIONAL EVALUATION:

Institutional accreditation was favored. It was agreed that if the overall morale of the institution was good, then the institution probably could offer good programs. Two patterns of evaluation were discussed: 1) self-evaluation, and 2) evaluation by a team of peers. The evaluation team must be representative of the broad spectrum found in institutions of post-secondary education. There is a definite need for people with experience in institutional evaluation.

III. STATE STAFFING:

The problems of state staffing were discussed. Three purposes of the state staff were listed. The state staff should:

1. Be a service-oriented resource unit (i.e., curriculum).
2. Be catalytic rather than autocratic.
3. Provide leadership to assist schools in the identification and resolution of problems.

There is a problem in securing competent state staff personnel. The inequality of salaries between school staff positions and state staff positions were cited as one possible reason for this inequality. Another problem area exists concerning communication between staff and faculty of an institution and the state staff and industry. It was stated that cross level and functional dialogue are an absolute necessity for successful program growth.

IV. ORGANIZATION AND LEGISLATION:

A consensus of opinion was reached by two discussion groups concerning organization and legislation. These consensus opinions are as follows:

1. Federal departmental staffs have not grown in relation to programs--not enough manpower to cover responsibilities.
2. Unification of organizational thrusts within vocational-technical education is needed.
3. More coordination between governmental units, i.e., The Department of Health, Education, and Welfare, and higher education is needed.
4. There is need for cabinet status for one agency with sufficient manpower which would be responsible for all educational funds as a delivery or accountability agency.
5. Appropriation and funding patterns are too sporadic to enable effective long-range planning.
6. The Department of Health, Education, and Welfare is not pulling as a team; we need a firm commitment on the part of top leadership to the aims and goals of vocational-technical education.
7. The proliferation of bureaucracies and bureaucratic procedures are hindering operations at the local level.
8. The present national structure of The Department of Health, Education, and Welfare is not a healthy climate

for vocational education, thus we need to restructure the U. S. Office of Education so it will be more responsive to the needs of vocational-technical education.

V. GENERAL RECOMMENDATIONS:

The participants offered the following general recommendations:

1. A permanent committee should be established to promote a coordinated system of vocational-technical education.
2. The internal administration of local institutions should have a vehicle to hear faculty representatives, students, local community leaders, etc., prior to making policy decisions.
3. There is a need to develop coordinated facilities for post-secondary institutions which remove physical or psychological barriers between programs.
4. There is a need for continuing programs of retraining in order to meet the needs of a changing technology.
5. There is a need for closer cooperation between industry and those persons in charge of technical program development.
6. There is a need for the coordination of the many manpower programs and the many educational programs.
7. Educators talk to educators too much. There is a need to talk to industry, government, students, and taxpayers.
8. There is a need to make more effective use of state advisory councils in getting the message to legislators.
9. There needs to be total staff involvement in developing and carrying out educational objectives.
10. There is a need for a total systems approach for input and output related to organizational objectives, whether it be staffing, curriculum developments, or generation of planning data for all the community of influence.
11. Greater efforts need to be made for orientation to and communication with the political and legislative structure responsible for a large segment of the necessary resources for vocational-technical education.

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THE CONFERENCE: PURPOSE AND OBJECTIVES

The purpose of this conference was to provide a mechanism for leaders in post-secondary vocational-technical education to examine ways and means of extending and developing vocational-technical programs in post-secondary institutions as reflected in the Vocational Education Act of 1968.

The specific objectives of this conference were:

1. To familiarize the participants with the national status of post-high school vocational and technical education, some of the crucial issues, and alternatives for meeting these issues.
2. To review and react to positions taken by national consultants on these crucial issues, and to refine the position statements for inclusion in a volume of suggested national guidelines relative to post-secondary vocational-technical education.

CONFERENCE PROGRAM

APPENDIX G

TUESDAY--November 4, 1969

7:30-9:30 p.m. REGISTRATION

WEDNESDAY--November 5, 1969

8:00-8:30 a.m. REGISTRATION

Chairman: AARON J. MILLER
Coordinator of Development and Training
The Center for Vocational and Technical Education
The Ohio State University

8:30 a.m. WELCOME:

J. W. Edgar, Commissioner of Education, Texas Education Agency, Austin, Texas

Wayland P. Moody, President
San Antonio College, San Antonio, Texas

8:45 a.m. INTRODUCTION TO THE CONFERENCE

Goals and Objectives:
Aaron J. Miller, Coordinator of Development and Training, The Center for Vocational and Technical Education

9:00 a.m. "Who Shall be Served by Post-High School Vocational-Technical Education"

Albeno P. Garbin
Professor of Sociology
University of Georgia

9:40 a.m. BREAK

9:55 a.m. "Who Shall be Served by Post-High School Vocational-Technical Education?"
Al Phillips, President
Tulsa Junior College

10:25 a.m. DISCUSSION GROUPS:

Dwight Adams	A. Room 329
Gene Bottoms	B. Room 331
Clarkson Groos	C. Room 332
Gerald James	D. Room 337
Robert Knoebel	E. Mezzanine B
C. Allen Paul	F. Mezzanine C
Harland Samson	G. Room 346
Lucian Lombardi	H. Room 350

11:45 a.m. LUNCHEON

Speaker: Lowell Burkett,
Executive Director, American
Vocational Association,
Washington, D. C.

1:30 p.m. DISCUSSION GROUPS (RE-CONVENE)

3:00 p.m. BREAK

4:30 p.m. ADJOURN

THURSDAY--November 6, 1969

Chairman: ALBERT J. RIENDEAU
Chief, Pilot and Demonstration Branch Division of
Vocational and Technical Education, U. S. Office of Education

8:30 a.m. "The Development of Educational Personnel"
William L. Ramsey, Director
Milwaukee Technical College

"The Development of
Educational Personnel"
John G. Nealon
Industrial Professor
Department of Vocational and
Technical Education, Rutgers-
The State University
New Brunswick, New Jersey

9:50 a.m. BREAK

10:05 a.m. DISCUSSION GROUPS

Dwight Adams	A. Room 329
Gene Bottoms	B. Room 330
Clarkson Groos	C. Room 331
Gerald James	D. Room 337
Robert Knoebel	E. Mezzanine B
C. Allen Paul	F. Mezzanine C
Harland Samson	G. Navarro Room
Lucian Lombardi	H. Room 346

11:45 a.m. LUNCHEON

Speaker: Edmund J. Gleazer,
Executive Director, American
Association of Junior Colleges
Washington, D. C.

1:30 p.m. DISCUSSION GROUPS (RE-CONVENE)

3:00 p.m. BREAK

4:30 p.m. ADJOURN FOR DINNER

7:30 p.m. RE-CONVENE FOR EVENING SESSION

Chairman: WALTER BROOKING,
Program Officer, Division of Vocational and Technical Education,
U. S. Office of Education

"Organizational
Structure for Post-Secondary Vocational-Technical Education"
Cecil Tyrrel, President
Broome Technical Community College
Binghamton, New York

8:10 p.m. DISCUSSION GROUPS (RE-CONVENE)

9:30 p.m. ADJOURN

FRIDAY--November 7, 1969

Chairman: ED RUMPF
Chief, Development Branch;
Division of Vocational and Technical Education;
U. S. Office of Education

8:15 a.m. "Organizational
Structure for Post-Secondary Vocational-Technical Education"
Congressman Roman C. Pucinski
U. S. House of Representatives
State of Illinois

9:00 a.m. DISCUSSION GROUPS:

Dwight Adams	A. Room 329
Gene Bottoms	B. Room 330
Clarkson Groos	C. Room 331
Gerald James	D. Room 332
Robert Knoebel	E. Room 337
C. Allen Paul	F. Mezzanine B
Harland Samson	G. Mezzanine C
Lucian Lombardi	H. Navarro Room

10:30 a.m. BREAK

10:45 a.m. REPORTS FROM DISCUSSION LEADERS

11:15 a.m.	CLOSING ADDRESS: Leon Minear, Director Division of Vocational-Technical Education; Bureau of Adult, Vocational, and Library Programs; U. S. Office of Education
12:00 noon	CONFERENCE ADJOURNS